

Eltako – The Wireless Building

Reliable, very reasonable and comfortable



switch To Total Freedom

The wireless building with the revolutionary **enocean**° wireless sensors without battery or wire in Eltako wireless pushbuttons and with innovative Eltako wireless switchgear.

Products and prices 2012

Eltako – The Wireless Building Introduction

Unlimited flexibility and convenience in building services

The wireless network with the revolutionary *enocean*° wireless sensors without battery or wire in Eltako wireless pushbuttons and with innovative Eltako wireless switchgear.

Wireless networks only function well with batteryless wireless modules. They generate their own power supply of approx. 50 µWs when a pushbutton is operated, therefore they require no external power supply.

They transmit ultra short interference-proof signals in the 868 MHz band with a range of up to 100 meters in halls. They are integrated in Eltako wireless pushbuttons that are only 11 mm or 15 mm high. These are screwed directly to the wall, bonded to glass or on furniture, and they can also be screwed conventionally to a socket box. Maintenance-free all inclusive.

Eltako wireless pushbuttons without battery or wire reduce the electrosmog load since they emit high-frequency waves that are 100 times weaker than conventional light switches. There is also a significant reduction in low-frequency alternating fields since fewer power cables need to be installed in the building.

Passive and active wireless sensors



Receivers + switchgear (actuators)



Accessories



The battervless wireless pushbuttons comprise an enocean° wireless module. It is available with inner frame dimensions of 55x55mm (standard), 60x60mm (Swiss design) and 63x63mm (flat pushbutton). They are combinable with the frames of many other manufacturers. Using the same system, we manufacture flat pushbuttons, mini pushbuttons, hand-held transmitters, remote controls, pull switches and hotel key card switch. With its own solar cell power supply, we manufacture window/door contacts, motion/brightness sensors, brightness sensors, twilight sensors, humidity temperature sensors, temperature controllers and temperature sensors. Other sensors require an external power

For centralised wireless systems with DIN rail mounted actuators, we manufacturer wireless antenna modules which are linked to the associated actuators over the Eltako RS485 bus in the switchboard or distribution box.

For decentralised wireless systems we manufacture wireless actuators for the 55 mm switch socket and for mounting, e.g. in false ceilings with integrated wireless receivers and internal antennas.

For difficult reception conditions, we manufacture 2-level wireless repeaters - as well as connectors for external antennas.

For metal switching cabinets, the standard antenna of the wireless antenna module and the wireless transmitter modules can be replaced by an external antenna with a magnetic base as required.



Reduced costs for many installations in new buildings and for expansions.

Eltako Wireless Building can bring you significant savings over conventional solutions since it cuts out the need to lay cables. Of course, this also depends on the size of the building. However, you always win through greater convenience and flexibility.

supply.

Eltako – The Wireless Building Contents





Passive wireless sensors

The shapes and colours of the pushbuttons, pushbuttons without battery or wire, noiseless pushbuttons, pushbuttons with sensor key, pushbutton lighting, accessories: frames, blind covers, socket outlets and intermediate frames, universal remote control, hand-held transmitter, mini hand-held transmitter, window/door contact, Hoppe window handles, wireless sensor card switch and pull switch; compatible design frames as well as single rockers



Active wireless sensors

transmitter modules, smoke alarm, motion/brightness sensors, brightness sensors, humidity temperature sensors, twilight sensors, clock thermometer, temperature controllers, temperature sensors, timer and teach-in list sensors/actuators



Wireless antenna modules, pushbutton input module, timer and bus connector for the Eltako RS485 bus; antenna module server FVS-Safe for PC, wireless Powernet connector, wireless Powernet repeater and wireless Powernet phase coupler



Switching and dimming actuators for the Eltako RS485 bus – centralised installation:

electronic impulse switches, relays, universal dimmer switches, roller blind switch, shading element switch, 1-10 V controller, constant light controllers, light scene controllers, staircase time switch, time relay, heating/cooling relay, ventilation relay and mains disconnection relay



Switching and dimming actuators for installation – decentralised installation:

electronic impulse switches, relays, universal dimmer switches with and without N connection, roller blind switch, shading element switch, 1-10V controller, constant light controllers, light scene controller, staircase off-delay timer, time relay, heating/cooling relays, ventilation relay mains disconnection relay and gong module



Switching actuators and dimming actuators as cord switches and actuators universal indicator with LEDs and small actuator for radiators

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5



Smart Metering - smart energy metering, visualisation and display

energy consumption indicators, FVS-Energy visualisation software, energy meter transmitter modules and single-phase energy meter transmitter modules



The blue wireless network in the building

Server-assisted building monitoring, control and visualisation.
Secure data management with Eltako FVS-Safe and the factory installed Eltako FVS Wireless Visualisation and Control Software

V



Accessories

repeater, switching power supply units, wireless antennas with extension cables, level meter, short-stroke pushbuttons

Z



Technical data, teaching-in guide, operating distances and contents of Eltako wireless telegrams

T



Index, key to abbreviations of functions, terms of delivery and sensor-actuator allocation list

S

Pictograms

The performance of our devices has become so complex that we have devised pictograms to depict technical features of particular importance.



Minimized standby loss of electronic devices supports international efforts to reduce energy consumption. 98% of the devices produced by ELTAKO have a standby loss of less than 0.8 watt. Numerous pushbuttons, sensors and transmitter modules work **without stand-by loss.**



Bistable switching relays help electronic switchgear to reduce heating and current consumption. This prolongs lifetime and reduces or avoids standby loss. After installation the short automatic synchronization in the Off position is carried out, partly at initial operation.



Bidirectional wireless expands the functions of the wireless actuators by another dimension: every change in state and incoming central control telegrams are confirmed by wireless telegram. This wireless telegram can be taught-in in other actuators, the FVS Software and in universal displays. In addition, a repeater function can partially be enabled in these actuators to reach other actuators that are located far away from the wireless source.



The Eltako RS485 bus connects the wireless antenna module FAM12 and/or pushbutton input modules FTS12EM with the RS485 bus actuators in the switchboard or distribution box. It is an often used and very safe 2-wire bus.



Zero passage switching of the mains voltage sinusoidal wave prolongs contact lifetime. This provides very high switching capacities and the shallow current flow curve protects the connected consumers. This prolongs in particular the lifetime of energy saving lamps ESL.



With the patented Eltako Duplex technology (DX) the normally potential-free contacts can still switch in zero passage when switching 230 V AC 50 Hz and therefore drastically reduce wear. Simply connect the neutral conductor to the terminal (N) and L to the contact input terminal (L). This gives an additional standby consumption of only 0.1 Watt.



Universal dimmer for R, L and C loads. Only universal dimmers with the marking R+L, R+C or R, L, C recognize automatically the connected load and adjust their dimmer function accordingly. Other dimmers have to be replaced when luminaires with different kind of loads will be used later on.



Only universal dimmer switches with an additional ESL marking are optimized for dimmable energy saving lamps and only universal dimmer switches with an additional LED marking are optimized for dimmable 230V LED lamps.



Encrypted wireless system. The internet connections from the FVS software to smartphones and/or energy suppliers are highly encrypted.



Only a trained electrician may install our devices, otherwise there is a risk of fire or electric shock. It is therefore prohibited to sell to other customers for this reason otherwise the risk passes to the seller.

Special models and non-standard control voltages are only supplied ex works. Any return is excluded.

Subject to change! The product descriptions on the internet are valid only for newly manufactured devices at that time. Also this print-catalogue is only a snap-shot. Older and newer devices might differ from them. Therefore, only the operation instructions enclosed with the devices are binding. Terms of delivery see page S-3.

All articles are available with Declarations of Conformity that document compliance of the devices with the Low-Voltage Directive 2006/95/EC and/or the EMC Directive 2004/108/EC. The C€-mark is affixed to the devices and the packaging. All articles comply with EU Directives 2002/95 EC (RoHS) and 1907/2006/EC (REACH) and contain no substances that are on the candidate list.

Eltako – The Wireless Building Passive Wireless Sensors





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Eltako - The Wireless Building The shapes and colours of the pushbuttons



anthracite/ chrome, ac

With anthracite-

soft painting (only hand-held transmitters)

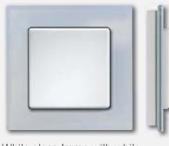
glossy, si

The new O Design, Single Frames OR



NEW

QR1...



White glass frame with white glossy body

Q Design, single frames

Our wireless flat pushbutton FFT55Q in 84x84mm square design was the first representative of our new pushbutton series in the appropriately named Q-design. With an overall height of only 11 mm, it differs significantly from the other series with 15 mm. Mounted as a single switch, it works particularly easily on the wall.

Now we amended the Q-series with additional frames, which are also available 2-fold and 3-fold. Although the overall height is 15 mm, the design with the 'floating' panel is as light as the 11 mm high wireless flat pushbutton FFT55Q. In addition, both wire- and batteryless EnOcean transmitter modules can be combined, and the noiseless wireless pushbuttons, the wireless sensor pushbuttons and the sensors of the 55 series. These also require an intermediate frame ZR, which is included in the delivery.

The Q-frames are supplied as an accessory, the pushbuttons FT55, FT55G or FT55S as well as the 55 sensors with standard frames must be ordered separately.



Black glass frame with white glossy body



Black glass frame with black body



White glossy plastic frame



Brushed stainless steel frame with glossy white body



Anthracite plastic frame



Aluminium-silver plastic frame

QR1Gw-gw	Q frame single white glass, white glossy body	EAN 4010312313237	15,50 €/pc.
QR1Gs-gw	Q frame single black glass, white glossy body	EAN 4010312313220	15,50 €/pc.
QR1Gs-sz	Q frame single black glass, black body	EAN 4010312313244	15,50 €/pc.
QR1E-gw	Q frame single brushed stainless steel, white glossy body	EAN 4010312313275	29,80 €/pc.
QR1K-gw	Q frame single white glossy plastic	EAN 4010312313213	3,30 €/pc.
QR1K-an	Q frame single anthracite plastic	EAN 4010312313251	3,60 €/pc.
QR1K-as	Q frame single aluminium-silver plastic	EAN 4010312313268	5,30 €/pc.

The new O Design, Double and Triple Frames OR



QR2..

Q Design, double frames

Dimensions 84x156mm, usually like the 1-fold frame QR1.



with white glossy body

Black glass frame with white glossy body

Black glass frame with black body

Brushed stainless steel frame with glossy white body

White glossy plastic frame

frame

Aluminium-silver plastic frame

QR2Gw-gw	Q frame double white glass, white glossy body	EAN 4010312313305	25,50 €/pc.
QR2Gs-gw	Q frame double black glass, white glossy body	EAN 4010312313312	25,50 €/pc.
QR2Gs-sz	Q frame double black glass, black body	EAN 4010312313329	25,50 €/pc.
QR2E-gw	Q frame double brushed stainless steel, white glossy body	EAN 4010312313336	41,90 €/pc.
QR2K-gw	Q frame double white glossy plastic	EAN 4010312313343	4,10 €/pc.
QR2K-an	Q frame double anthracite plastic	EAN 4010312313350	4,80 €/pc.
QR2K-as	Q frame double aluminium-silver plastic	EAN 4010312313367	7,90 €/pc.



QR3..

Q Design, triple frames

Dimensions 84x227 mm, usually like the 1-fold frame QR1.



with white glossy body

with white glossy body

with black body

steel frame with glossy white body

plastic frame

frame

plastic frame

QR3Gw-gw	Q frame triple white glass, white glossy body	EAN 4010312313374	42,20 €/pc.
QR3Gs-gw	Q frame triple black glass, white glossy body	EAN 4010312313381	42,20 €/pc.
QR3Gs-sz	Q frame triple black glass, black body	EAN 4010312313398	42,20 €/pc.
QR3E-gw	Q frame triple brushed stainless steel, white glossy body	EAN 4010312313404	58,40 €/pc.
QR3K-gw	Q frame triple white glossy plastic	EAN 4010312313411	6,60 €/pc.
QR3K-an	Q frame triple anthracite plastic	EAN 4010312313428	8,10 €/pc.
QR3K-as	Q frame triple aluminium-silver plastic	EAN 4010312313435	13,60 €/pc.

Eltako – The Wireless Building Pushbuttons without battery or wire



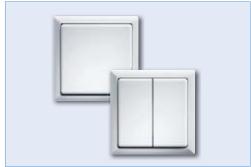


Wireless flat pushbuttons, only 11 mm high, with rocker 55x55 mm. In the new Q design

NEW

Wireless pushbuttons FFT55Q

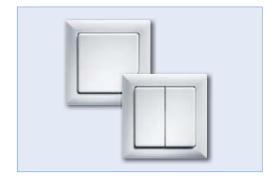
1-4



Wireless flat pushbuttons 80x80 mm external dimensions, 15 mm high, with rocker and double rocker 63x63 mm

Wireless flat pushbuttons FT4F

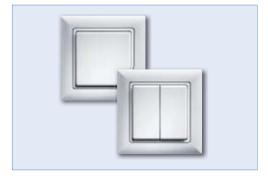
1-5



Wireless pushbuttons 80x80 mm external dimensions, 15 mm high, with rocker and double rocker 55x55 mm

Wireless pushbuttons FT55

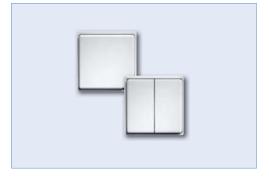
1-6



Wireless pushbuttons with intermediate frame 80x80 mm external dimensions, 15 mm high, with rocker and double rocker 50x50 mm

Wireless pushbuttons FT4

1-7



Wireless mini pushbuttons 55x55 mm external dimensions, 15 mm high, with rocker and double rocker 50x50 mm

NEW

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NEW

FFT55Q-





Wireless flat pushbutton with rocker

Wireless flat pushbutton, $84x84\,\text{mm}$ external dimensions, internal frame dimensions $55x55\,\text{mm}$, 11 mm high. Generates the power for wireless telegrams itself when the button is pressed, therefore there is no connecting wire and no standby loss.

The scope of supply comprises the frame R1FQ, a rocker WFQ (both same colour), the wireless module installed firmly on the mounting base and one adhesive foil.

Wireless flat pushbuttons with one rocker can transmit one evaluable signal: **press down rocker** in the marked area.

The wireless flat pushbutton can be screwed onto a flat surface or glued to the wall, on glass or on furniture using the enclosed adhesive foil. Use the sleeves in the 55 mm socket box for screw mounting. Then the **wireless switch lighting FTB** can be snapped into the mounting plate from the rear.

Before screwing on the device, remove the rocker and remove the frame from the mounting plate. Then screw on the mounting plate - with the 'top' marking pointing upwards. Snap the frame and rocker back in.

We recommend sheet metal countersink screws 2.9x25 mm, DIN 7982 C, for screw connections. Both with rawl plugs 5x25 mm and with 55 mm switch boxes. See Accessories on page Z-4.

Rockers laser engraved page 1-27.



FFT55Q-ws	Wireless flat pushbutton 55x55 mm without battery or wire, white, only 11 mm high	EAN 4010312312605	32,90 €/pc.
FFT55Q-rw	Wireless flat pushbutton 55x55 mm without battery or wire, pure white, only 11 mm high	EAN 4010312312636	32,90 €/pc.
FFT55Q-sz	Wireless flat pushbutton 55x55 mm without battery or wire, black, only 11 mm high	EAN 4010312312643	32,90 €/pc.
FFT55Q-an	Wireless flat pushbutton 55x55 mm without battery or wire, anthracite, only 11 mm high	EAN 4010312312650	32,90 €/pc.
FFT55Q-wg	Wireless flat pushbutton 55x55 mm without battery or wire, pure white glossy, only 11 mm high	EAN 4010312312667	32,90 €/pc.
FFT55Q-si	Wireless flat pushbutton 55x55 mm without battery or wire, silver grey glossy, only 11 mm high	EAN 4010312312681	32,90 €/pc.
FFT55Q-al	Wireless flat pushbutton 55x55 mm without battery or wire, coated/aluminium paint, only 11 mm high	EAN 4010312312698	41,10 €/pc.
FFT55Q-sg	Wireless flat pushbutton 55x55 mm without battery or wire, black glossy, only 11 mm high	EAN 4010312312704	41,10 €/pc.

Wireless Sensors Flat Pushbuttons without battery or wire FT4F



FT4F-





Wireless flat pushbutton with rocker



Wireless flat pushbutton with double rocker

Wireless flat pushbuttons, 80x80 mm external dimensions, internal frame dimensions 63x63 mm, 15 mm high.

Generates the power for wireless telegrams itself when the button is pressed, therefore there is no connecting wire and no standby loss.

The scope of supply comprises the frame R1F, a flat rocker WF, a flat double rocker DWF (all same colour), an attachment frame BRF, the mounting base HP, the wireless module and one adhesive foil.

Wireless pushbuttons with one rocker can transmit two evaluable signals: press rocker up and press rocker down. Wireless pushbuttons with double rocker can transmit four evaluable signals: press two rockers up or down.

The mounting base can be screwed onto a flat surface or glued to the wall, on glass or on furniture using the enclosed adhesive foil. Use the sleeves in the 55 mm socket box for screw mounting. Then the **wireless switch lighting FTB** can be snapped into the mounting plate from the rear.

The double rocker is snapped onto the wireless module at the factory. If the double rocker is replaced by the large rocker, remove the rocker halves by pulling off to the front. Do not bend towards the middle. Then snap the large rocker so that the markings O and I on the back line up with the same markings on the wireless module.

Adhesion: First adhere the set *comprising the mounting base, frame and attachment frame* - with the latches pointing at the top and bottom. Then snap on the set *comprising the wireless module and rocker* - with the marking 0 on the back always pointing up.

Before screwing, remove the mounting base from the frame and the attachment frame. To do this, press the latches on the mounting base outwards. Then screw the mounting base - with the latches at top and bottom -, snap on the frame with the attachment frame and snap on the set *comprising the wireless module and rocker* - with the marking 0 on the back always pointing to the top.

We recommend sheet metal countersink screws 2.9x25 mm, DIN 7982 C, for screw connections. Both with rawl plugs 5x25 mm and with 55 mm switch boxes. See Accessories on page Z-4.

The Eltako frame can be replaced on installation at any time by a design frame with internal dimensions 63x63 mm from other manufacturers.













FT4F-ws	Wireless flat pushbutton without battery or wire, white	EAN 4010312302927	37,50 €/pc.
FT4F-rw	Wireless flat pushbutton without battery or wire, pure white	EAN 4010312302941	37,50 €/pc.
FT4F-sz	Wireless flat pushbutton without battery or wire, black	EAN 4010312302965	37,50 €/pc.
FT4F-an	Wireless flat pushbutton without battery or wire, anthracite	EAN 4010312302996	37,50 €/pc.
FT4F-wg	Wireless flat pushbutton without battery or wire, pure white glossy	EAN 4010312302972	37,50 €/pc.
FT4F-cg	Wireless flat pushbutton without battery or wire, cream-white glossy	EAN 4010312309698	37,50 €/pc.
FT4F-si	Wireless flat pushbutton without battery or wire, silver grey glossy	EAN 4010312303818	37,50 €/pc.
FT4F-al	Wireless flat pushbutton without battery or wire, coated/aluminium paint	EAN 4010312306697	44,70 €/pc.
FT4F-sg	Wireless flat pushbutton without battery or wire, black glossy	EAN 4010312306703	44,70 €/pc.

Wireless Sensors Pushbuttons without battery or wire FT55

FT55-





Wireless pushbutton with rocker



Wireless pushbutton with double rocker

Wireless pushbuttons, $80x80\,mm$ external dimensions, internal frame dimensions $55x55\,mm$, $15\,mm$ high.

Generates the power for wireless telegrams itself when the button is pressed, therefore there is no connecting wire and no standby loss.

The scope of supply comprises the frame R, a rocker W55, a double rocker DW55 (all same colour), an attachment frame BRF, the mounting base HP, the wireless module and one adhesive foil.

Wireless pushbuttons with one rocker can transmit two evaluable signals: press rocker up and press rocker down. Wireless pushbuttons with double rocker can transmit four evaluable signals: press two rockers up or down.

The mounting base can be screwed onto a flat surface or glued to the wall, on glass or on furniture using the enclosed adhesive foil. Use the sleeves in the 55 mm socket box for screw mounting. Then the **wireless switch lighting FTB** can be snapped into the mounting plate from the regr.

The double rocker is snapped onto the wireless module at the factory. If the double rocker is replaced by the large rocker, remove the rocker halves by pulling off to the front. Do not bend towards the middle. Then snap the large rocker so that the markings O and I on the back line up with the same markings on the wireless module.

Adhesion: First adhere the set *comprising the mounting base, frame and attachment frame* - with the latches pointing at the top and bottom. Then snap on the set *comprising the wireless module and rocker* - with the marking 0 on the back always pointing up.

Before screwing, remove the mounting base from the frame and the attachment frame. To do this, press the latches on the mounting base outwards. Then screw the mounting base - with the latches at top and bottom -, snap on the frame with the attachment frame and snap on the set *comprising the wireless module and rocker* - with the marking 0 on the back always pointing to the top.

We recommend sheet metal countersink screws 2.9x25 mm, DIN 7982 C, for screw connections. Both with rawl plugs 5x25 mm and with 55 mm switch boxes. See Accessories on page Z-4.

The Eltako frame can be replaced on installation at any time by a design frame with internal dimensions $55x55\,\mathrm{mm}$ from other manufacturers.













FT55-ws	Wireless pushbutton 55x55mm, without battery or wire, white	EAN 4010312308936	37,50 €/pc.
FT55-rw	Wireless pushbutton 55x55mm, without battery or wire, pure white	EAN 4010312305775	37,50 €/pc.
FT55-sz	Wireless pushbutton55x55mm, without battery or wire, black	EAN 4010312305782	37,50 €/pc.
FT55-an	Wireless pushbutton 55x55mm, without battery or wire, anthracite	EAN 4010312305805	37,50 €/pc.
FT55-wg	Wireless pushbutton 55x55mm, without battery or wire, pure white glossy	EAN 4010312305799	37,50 €/pc.
FT55-cg	Wireless pushbutton 55x55mm, without battery or wire, cream-white glossy	EAN 4010312309742	37,50 €/pc.
FT55-si	Wireless pushbutton 55x55mm, without battery or wire, silver grey glossy	EAN 4010312305812	37,50 €/pc.
FT55-al	Wireless pushbutton 55x55mm, without battery or wire, coated/aluminium paint	EAN 4010312305829	44,70 €/pc.
FT55-sg	Wireless pushbutton 55x55mm, without battery or wire, black glossy	EAN 4010312305836	44,70 €/pc.

Wireless Sensors – Pushbuttons without battery or wire FT4



FT4-





Wireless pushbutton with intermediate frame and rocker



Wireless pushbutton with intermediate frame and double rocker

Wireless pushbuttons, 80x80 mm external dimensions, internal frame dimensions 55x55 mm, 15 mm high. With intermediate frame. Generates the power for wireless telegrams itself when the button is pressed, therefore there is no connecting wire and no standby loss.

The scope of supply comprises the frame R, one large rocker W, one double rocker DW, one intermediate frame ZR (all same colour), the mounting base HP, the wireless module and one adhesive foil.

Wireless pushbuttons with one rocker can transmit two evaluable signals: press rocker up and press rocker down. Wireless pushbuttons with double rocker can transmit four evaluable signals: press two rockers up or down.

The mounting base can be screwed onto a flat surface or glued to the wall, on glass or on furniture using the enclosed adhesive foil. Use the sleeves in the 55 mm socket box for screw mounting. Then the **wireless switch lighting FTB** can be snapped into the mounting plate from the rear. The double rocker is snapped onto the wireless module at the factory. If the double rocker is replaced by the large rocker, remove the rocker halves by pulling off to the front. Do not bend towards the middle. Then snap the large rocker so that the markings 0 and I on the back line up with the same markings on the wireless module.

Adhesion: First adhere the set *comprising the mounting base, frame and intermediate frame* - with the latches pointing at the top and bottom. Then snap on the set *comprising the wireless module and rocker* - with the marking 0 on the back always pointing up.

Before screwing, remove the mounting base from the frame and the intermediate frame. To do this, press the latches on the mounting base outwards. Then screw the mounting base - with the latches at top and bottom -, snap on the frame with the intermediate frame and snap on the set *comprising the wireless module and rocker* - with the marking 0 on the back always pointing to the top.

We recommend sheet metal countersink screws $2.9x25\,\text{mm}$, DIN 7982 C, for screw connections. Both with rawl plugs $5x25\,\text{mm}$ and with $55\,\text{mm}$ switch boxes. See Accessories on page Z-4.

The Eltako frame can be replaced on installation at any time by a design frame with internal dimensions 55x55mm from numerous manufacturers.













FT4-ws	Wireless pushbutton without battery or wire, white	EAN 4010312300121	37,50 €/pc.
FT4-rw	Wireless pushbutton without battery or wire, pure white	EAN 4010312300350	37,50 €/pc.
FT4-sz	Wireless pushbutton without battery or wire, black	EAN 4010312300442	37,50 €/pc.
FT4-an	Wireless pushbutton without battery or wire, anthracite	EAN 4010312300817	37,50 €/pc.
FT4-wg	Wireless pushbutton without battery or wire, pure white glossy	EAN 4010312300459	37,50 €/pc.
FT4-cg	Wireless pushbutton without battery or wire, cream-white glossy	EAN 4010312309797	37,50 €/pc.
FT4-si	Wireless pushbutton without battery or wire, silver grey glossy	EAN 4010312304655	37,50 €/pc.
FT4-al	Wireless pushbutton without battery or wire, coated/aluminium paint	EAN 4010312300138	44,70 €/pc.
FT4-sg	Wireless pushbutton without battery or wire, black glossy	EAN 4010312300466	44,70 €/pc.

FMT55/2-





Wireless mini pushbutton with rocker



Wireless mini pushbutton, 55x55mm external dimensions, 15mm high, with rocker. Generates the power for wireless telegrams itself when the button is pressed, therefore there is no connecting wire and no standby loss.

The scope of supply comprises the frame R55, one rocker W55, the wireless module and one adhesive foil.

Wireless pushbuttons with one rocker can transmit two evaluable signals: press rocker up and press rocker down.

The mounting base can be screwed onto a flat surface or glued to the wall, on glass or on furniture using the enclosed adhesive foil.

Before screwing on the device, press the wireless module and rocker from the rear out of the frame. Afterwards screw on the frame with the right and left safety latches and click the wireless module with rocker – the marking 0 on the back is always up – into place.

Rockers laser engraved page 1-27.







FMT55/2-ws	Wireless mini pushbutton without battery or wire, with rocker, white	EAN 4010312312445	35,10 €/pc.
FMT55/2-rw	Wireless mini pushbutton without battery or wire, with rocker, pure white	EAN 4010312312469	35,10 €/pc.
FMT55/2-sz	Wireless mini pushbutton without battery or wire, with rocker, black	EAN 4010312312476	35,10 €/pc .
FMT55/2-an	Wireless mini pushbutton without battery or wire, with rocker, anthracite	EAN 4010312312506	35,10 €/pc .
FMT55/2-wg	Wireless mini pushbutton without battery or wire, with rocker, pure white glossy	EAN 4010312312483	35,10 €/pc .
FMT55/2-si	Wireless mini pushbutton without battery or wire, with rocker, silver grey glossy	EAN 4010312312513	35,10 €/pc .
FMT55/2-al	Wireless mini pushbutton without battery or wire, with rocker, coated/aluminium paint	EAN 4010312312452	42,30 €/pc .
FMT55/2-sg	Wireless mini pushbutton without battery or wire, with rocker, black glossy	EAN 4010312312490	42,30 €/pc.

Wireless Sensors – Mini Pushbuttons without battery or wire FMT55/4





FMT55/4-



loss.



Wireless mini pushbutton with double rocker

Wireless mini pushbutton, 55x55mm external dimensions, 15mm high, with double rocker. Generates the power for wireless telegrams itself when the button is pressed, therefore there is no connecting wire and no standby

The scope of supply comprises the frame R55, one double rocker DW55, the wireless module and one adhesive foil.

Wireless pushbuttons with double rocker can transmit four evaluable signals: press two rockers up or down.

The mounting base can be screwed onto a flat surface or glued to the wall, on glass or on furniture using the enclosed adhesive foil.

Before screwing on the device, press the wireless module and rocker from the rear out of the frame. Afterwards screw on the frame with the right and left safety latches and click the wireless module with rocker – the marking 0 on the back is always up – into place.

Double rockers laser engraved page 1-27.







FMT55/4-ws	Wireless mini pushbutton without battery or wire, with double rocker, white	EAN 4010312312520	37,50 €/pc.
FMT55/4-rw	Wireless mini pushbutton without battery or wire, with double rocker, pure white	EAN 4010312312544	37,50 €/pc.
FMT55/4-sz	Wireless mini pushbutton without battery or wire, with double rocker, black	EAN 4010312312551	37,50 €/pc.
FMT55/4-an	Wireless mini pushbutton without battery or wire, with double rocker, anthracite	EAN 4010312312582	37,50 €/pc.
FMT55/4-wg	Wireless mini pushbutton without battery or wire, with double rocker, pure white glossy	EAN 4010312312568	37,50 €/pc.
FMT55/4-si	Wireless mini pushbutton without battery or wire, with double rocker, silver grey glossy	EAN 4010312312599	37,50 €/pc.
FMT55/4-al	Wireless mini pushbutton without battery or wire, with double rocker, coated/aluminium paint	EAN 4010312312537	44,70 €/pc.
FMT55/4-sg	Wireless mini pushbutton without battery or wire, with double rocker, black glossy	EAN 4010312312575	44,70 €/pc.





Wireless noiseless flat pushbuttons with rocker and double rocker 63x63 mm

Wireless noiseless flat pushbuttons FT4GF 1-12



Wireless pushbuttons with rocker and double rocker 55x55 mm

Wireless pushbuttons FT55G 1-13



Wireless pushbuttons with intermediate frame, with rocker and double rocker 50x50 mm

Wireless pushbuttons FT4G 1-14

1-12

Wireless Sensors, noiseless Flat Pushbuttons FT4GF

FT4GF-230 V-





Flat pushbutton with rocker



Flat pushbutton with double rocker



Wireless noiseless flat pushbuttons, 80x80 mm external dimensions, internal frame dimensions 63x63 mm, 15+15 mm high. Supply voltage 230 V. Only 0.1 watt standby loss. With switchable pushbutton lighting.

The scope of supply comprises the frame R1F, a flat rocker WF, a flat double rocker DWF (all same colour), an attachment frame BRF with plug-in wireless pushbutton module and the mounting base HP with plug-in wireless transmitter module.

Wireless pushbuttons with one rocker can transmit two evaluable signals: press rocker up and press rocker down. Wireless pushbuttons with double rocker can transmit four evaluable signals: press two rockers up or down.

The pushbutton lighting can be switched by means of a jumper. The standby loss therefore increases by 0.1 watt.

Remove the opaque cover of the wireless transmitter module (before remove the module from the mounting base) and do not forget to replace it after making your settings, otherwise there is the risk of electric shock. The gap between the rocker and the frame lights up. To reduce the lighting intensity, replace the opaque cover with one of the two coloured covers.

Fitting using a 55 mm switch box. The wireless electronics only require an installation depth of 15 mm. The FT4GF-230V has a black/blue connecting wire that is 20 cm long and is routed out to the rear.

The double rocker is snapped onto the pushbutton module at the factory. If the double rocker is replaced by the large rocker, remove the rocker halves by pulling off to the front. Do not bend towards the middle. Then snap the large rocker so that the markings O and I on the back line up with the same markings on the pushbutton module.

Fitting: at first connect the 230 V black and blue connecting wires in the switch box and screw the mounting base to the switch box. The red plug socket has to be at top right and the straps of the mounting base at top and bottom. After that pull the connecting wire of the wireless pushbutton module through the frame and press the red plug into the red plug socket. Place frame on mounting base and snap pushbutton module and attachment frame in latches on mounting base. The marking 0 of the wireless pushbutton module is at the top. Snap on the double rocker or rocker. The marking 0 on the back line of the rocker has to be at the top.

We recommend sheet metal countersink screws 2.9x25mm, DIN 7982 C, for screw connections on 55mm switch boxes. See Accessories on page Z-4.

The Eltako frame can be replaced on installation at any time by a design frame with internal dimensions 63x63mm from numerous manufacturers.













FT4GF-230V-ws	Wireless noiseless flat pushbutton, white	EAN 4010312304884	75,20 €/pc.
FT4GF-230V-rw	Wireless noiseless flat pushbutton, pure white	EAN 4010312304891	75,20 €/pc.
FT4GF-230V-sz	Wireless noiseless flat pushbutton, black	EAN 4010312304921	75,20 €/pc.
FT4GF-230V-an	Wireless noiseless flat pushbutton, anthracite	EAN 4010312304938	75,20 €/pc.
FT4GF-230V-wg	Wireless noiseless flat pushbutton, pure white glossy	EAN 4010312304907	75,20 €/pc.
FT4GF-230V-si	Wireless noiseless flat pushbutton, silver grey glossy	EAN 4010312304914	75,20 €/pc.
FT4GF-230V-al	Wireless noiseless flat pushbutton, coated/aluminium paint	EAN 4010312306635	82,40 €/pc.
FT4GF-230V-sg	Wireless noiseless flat pushbutton, black glossy	EAN 4010312306642	82,40 €/pc.

Wireless Sensors, noiseless Pushbuttons FT55G



FT55G-230 V-





Wireless pushbutton with rocker



Wireless pushbutton with double rocker



Wireless noiseless pushbuttons, 80x80mm external dimensions, internal frame dimensions 55x55mm, 15+15mm high. Supply voltage 230 V. Only 0.1 watt standby loss. With switchable pushbutton lighting.

The scope of supply comprises the frame R, a rocker W55, a double rocker DW55 (all same colour), an attachment frame BRF with plug-in wireless pushbutton module and the mounting base HP with plug-in wireless transmitter module.

Wireless pushbuttons with one rocker can transmit two evaluable signals: press rocker up and press rocker down. Wireless pushbuttons with double rocker can transmit four evaluable signals: press two rockers up or down.

The pushbutton lighting can be switched by means of a jumper. The standby loss therefore increases by 0.1 watt.

Remove the opaque cover of the wireless transmitter module (before remove the module from the mounting base) and do not forget to replace it after making your settings, otherwise there is the risk of electric shock. The gap between the rocker and the frame lights up. To reduce the lighting intensity, replace the opaque cover with one of the two coloured covers.

Fitting using a 55 mm switch box. The wireless electronics only require an installation depth of 15 mm. The FT55G-230V has a black/blue connecting wire that is 20 cm long and is routed out to the rear.

The double rocker is snapped onto the pushbutton module at the factory. If the double rocker is replaced by the large rocker, remove the rocker halves by pulling off to the front. Do not bend towards the middle. Then snap the large rocker so that the markings O and I on the back line up with the same markings on the pushbutton module.

Fitting: at first connect the 230 V black and blue connecting wires in the switch box and screw the mounting base to the switch box. The red plug socket has to be at top right and the straps of the mounting base at top and bottom. After that pull the connecting wire of the wireless pushbutton module through the frame and press the red plug into the red plug socket. Place frame on mounting base and snap pushbutton module and attachment frame in latches on mounting base. The marking 0 of the wireless pushbutton module is at the top. Snap on the double rocker or rocker. The marking 0 on the back line of the rocker has to be at the top.

We recommend sheet metal countersink screws 2.9x25mm, DIN 7982 C, for screw connections on 55mm switch boxes. See Accessories on page Z-4.

The Eltako frame can be replaced on installation at any time by a design frame with internal dimensions 55x55 mm from numerous manufacturers.













FT55G-230V-ws	Wireless noiseless pushbutton 55x55mm, white	EAN 4010312307359	75,20 €/pc.
FT55G-230V-rw	Wireless noiseless pushbutton 55x55mm, pure white	EAN 4010312307366	75,20 €/pc.
FT55G-230V-sz	Wireless noiseless pushbutton 55x55mm, black	EAN 4010312307373	75,20 €/pc.
FT55G-230V-an	Wireless noiseless pushbutton 55x55mm, anthracite	EAN 4010312307397	75,20 €/pc.
FT55G-230V-wg	Wireless noiseless pushbutton 55x55mm, pure white glossy	EAN 4010312307380	75,20 €/pc.
FT55G-230V-si	Wireless noiseless pushbutton 55x55mm, silver grey glossy	EAN 4010312307403	75,20 €/pc.
FT55G-230V-al	Wireless noiseless pushbutton 55x55mm, coated/aluminium paint	EAN 4010312307410	82,40 €/pc.
FT55G-230V-sg	Wireless noiseless pushbutton 55x55mm, black glossy	EAN 4010312307427	82,40 €/pc.

FT4G-230 V-





Wireless pushbutton with intermediate frame and rocker



Wireless pushbutton with intermediate frame and double rocker



Wireless noiseless pushbuttons, $80x80\,\text{mm}$ external dimensions, internal frame dimensions $55x55\,\text{mm}$, $15+15\,\text{mm}$ high. With intermediate frame. Supply voltage 230 V. Only 0.1 watt standby loss. With switchable pushbutton lighting.

The scope of supply comprises the frame R, one large rocker W, one double rocker DW, one intermediate frame ZR with plug-in wireless pushbutton module (all same colour), one opaque intermediate frame and the mounting base HP with plug-in wireless transmitter module.

Wireless pushbuttons with one rocker can transmit two evaluable signals: press rocker up and press rocker down. Wireless pushbuttons with double rocker can transmit four evaluable signals: press two rockers up or down.

The pushbutton lighting can be switched by means of a jumper. The standby loss therefore increases by 0.1 watt and the opaque intermediate frame must be used.

Remove the opaque cover of the wireless transmitter module (before remove the module from the mounting base) and do not forget to replace it after making your settings, otherwise there is the risk of electric shock. The opaque intermediate frame lights up. To reduce the lighting intensity, replace the opaque cover with one of the two coloured covers.

Fitting using a 55mm switch box. The wireless electronics only require an installation depth of 15mm. The FT4G-230V has a black/blue connecting wire that is 20cm long and is routed out to the rear.

The double rocker is snapped onto the pushbutton module at the factory. If the double rocker is replaced by the large rocker, remove the rocker halves by pulling off to the front. Do not bend towards the middle. Then snap the large rocker so that the markings O and I on the back line up with the same markings on the pushbutton module.

Fitting: at first connect the 230V black and blue connecting wires in the switch box and screw the mounting base to the switch box. The red plug socket has to be at top right and the straps of the mounting base at top and bottom. After that pull the connecting wire of the wireless pushbutton module through the frame and press the red plug into the red plug socket. Place frame on mounting base and snap pushbutton module and intermediate frame in latches on mounting base. The marking 0 of the wireless pushbutton module is at the top. Snap on the double rocker or rocker. The marking 0 on the back line of the rocker has to be at the top. We recommend sheet metal countersink screws 2.9x25 mm, DIN 7982 C, for screw connections on 55 mm switch boxes. See Accessories on page Z-4.

The Eltako frame can be replaced on installation at any time by a design frame with internal dimensions 55x55 mm from numerous manufacturers.













FT4G-230V-ws	Wireless noiseless pushbutton, white	EAN 4010312304532	75,20 €/pc.
FT4G-230V-rw	Wireless noiseless pushbutton, pure white	EAN 4010312304778	75,20 €/pc.
FT4G-230V-sz	Wireless noiseless pushbutton, black	EAN 4010312304815	75,20 €/pc.
FT4G-230V-an	Wireless noiseless pushbutton, anthracite	EAN 4010312304808	75,20 €/pc.
FT4G-230V-wg	Wireless noiseless pushbutton, pure white glossy	EAN 4010312304785	75,20 €/pc.
FT4G-230V-si	Wireless noiseless pushbutton, silver grey glossy	EAN 4010312304792	75,20 €/pc.
FT4G-230V-al	Wireless noiseless pushbutton, coated/aluminium paint	EAN 4010312308141	82,40 €/pc.
FT4G-230V-sg	Wireless noiseless pushbutton, black glossy	EAN 4010312308158	82,40 €/pc.





Flat wireless sensor button with touch surfaces 63x63 mm

Flat wireless sensor button FT2SF

1-16



Wireless sensor button with rocker and double rocker 55x55 mm

Wireless sensor button FT55S

1-17



Wireless sensor button with intermediate frame and with touch surfaces 50x50 mm

Wireless sensor button FT2S

1-18

FT2SF-UC-





Flat wireless sensor button with one touch surface



Flat wireless sensor button with two touch surfaces





Flat wireless pushbutton with sensor key, 80x80 mm external dimensions, internal frame dimensions 63x63 mm, 15+15 mm high. Supply voltage 8 till 230 V UC. Only 0.03 till 0.3 watt standby loss.

The scope of supply comprises the frame R1F, a flat rocker WF, a flat double rocker DWF (all same colour), an attachment frame BRF, the mounting base HP with plug-in wireless transmitter module and the sensor module.

The wireless touch button with one rocker can only send one evaluatable signal. This is achieved by teaching in the two touch surfaces behind the rocker in the actuator. With the double rocker fitted at the factory, two evaluatable signals can be transmitted. The sensor module including the mounting plate is mounted together with the top and bottom halves of a double rocker to produce a direction button for an actuator. The connecting wire exits at the bottom rear. Then the top is 'SWITCH ON/DIM UP' and the bottom is 'SWITCH OFF/DIM DOWN'. If two actuators are controlled as universal buttons using the touch button, it is recommended to fit the touch button completely rotated through 90 degrees so that the two double rocker halves are adjacent to each other. Fit using a 55 mm switch box. The wireless electronics device requires an installation depth of only 15 mm. Behind, a 20 cm long black/blue connecting wire is routed to the outside. The double rocker is snapped onto the touch module at the factory. If the rocker has to be exchanged for a large rocker, pull the rocker halves to the front. Do not bend them to the centre. Then snap on the large rocker.

Before screwing, remove the mounting base from the frame and the attachment frame. To do this, press the latches on the mounting base outwards. Then screw the mounting base - with the latches left and right -, snap on the frame with the attachment frame and snap on the set comprising the sensor module and rocker.

We recommend sheet metal countersink screws 2.9x25mm, DIN 7982 C, for screw connections on 55 mm switch boxes. See Accessories on page Z-4.

The Eltako frame can be replaced on installation at any time by a design frame with internal dimensions 63x63mm from numerous manufacturers.

Rockers and double rockers laser engraved page 1-27.













FT2SF-UC-ws	Flat wireless sensor button, white	EAN 4010312306864	60,90 €/pc.
FT2SF-UC-rw	Flat wireless sensor button, pure white	EAN 4010312306888	60,90 €/pc.
FT2SF-UC-sz	Flat wireless sensor button, black	EAN 4010312306895	60,90 €/pc.
FT2SF-UC-an	Flat wireless sensor button, anthracite	EAN 4010312306925	60,90 €/pc.
FT2SF-UC-wg	Flat wireless sensor button, pure white glossy	EAN 4010312306901	60,90 €/pc.
FT2SF-UC-si	Flat wireless sensor button, silver grey glossy	EAN 4010312306932	60,90 €/pc.
FT2SF-UC-al	Flat wireless sensor button, coated/aluminium paint	EAN 4010312306857	68,10 €/pc.
FT2SF-UC-sg	Flat wireless sensor button, black glossy	EAN 4010312306918	68,10 €/pc.

Wireless Sensors Wireless Sensor Button FT55S



FT55S-UC-

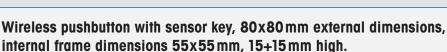




Flat wireless sensor button with one touch surface



Flat wireless sensor button with two touch surfaces



Supply voltage 8 till 230 V UC. Only 0.03 till 0.3 watt standby loss.

The scope of supply comprises the frame R, a rocker W55, a double rocker DW55 (all same colour), an attachment frame BRF, the mounting base HP with plug-in wireless transmitter module and the sensor module.

The wireless touch button with one rocker can only send one evaluatable signal. This is achieved by teaching in the two touch surfaces behind the rocker in the actuator. With the double rocker fitted at the factory, two evaluatable signals can be transmitted. The sensor module including the mounting plate is mounted together with the top and bottom halves of a double rocker to produce a direction button for an actuator. The connecting wire exits at the bottom rear. Then the top is 'SWITCH ON/DIM UP' and the bottom is 'SWITCH OFF/DIM DOWN'. If two actuators are controlled as universal buttons using the touch button, it is recommended to fit the touch button completely rotated through 90 degrees so that the two double rocker halves are adjacent to each other. Fit using a 55 mm switch box. The wireless electronics device requires an installation depth of only 15 mm. Behind, a 20 cm long black/blue connecting wire is routed to the outside. The double rocker is snapped onto the touch module at the factory. If the rocker has to be exchanged for a large rocker, pull the rocker halves to the front. Do not bend them to the centre. Then snap on the large rocker.

Before screwing, remove the mounting base from the frame and the attachment frame. To do this, press the latches on the mounting base outwards. Then screw the mounting base - with the latches left and right -, snap on the frame with the attachment frame and snap on the set comprising the sensor module and rocker.

We recommend sheet metal countersink screws $2.9x25\,\text{mm}$, DIN 7982 C, for screw connections on $55\,\text{mm}$ switch boxes. See Accessories on page Z-4.

The Eltako frame can be replaced on installation at any time by a design frame with internal dimensions 55x55mm from numerous manufacturers.















FT55S-UC-ws	Wireless sensor button 55x55 mm, white	EAN 4010312306949	60,90 €/pc.
FT55S-UC-rw	Wireless sensor button 55x55 mm, pure white	EAN 4010312306963	60,90 €/pc.
FT55S-UC-sz	Wireless sensor button 55x55 mm, black	EAN 4010312306970	60,90 €/pc.
FT55S-UC-an	Wireless sensor button 55x55 mm, anthracite	EAN 4010312307014	60,90 €/pc.
FT55S-UC-wg	Wireless sensor button 55x55 mm, pure white glossy	EAN 4010312306987	60,90 €/pc.
FT55S-UC-si	Wireless sensor button 55x55 mm, silver grey glossy	EAN 4010312310144	60,90 €/pc.
FT55S-UC-al	Wireless sensor button 55x55 mm, coated/aluminium paint	EAN 4010312306956	68,10 €/pc.
FT55S-UC-sg	Wireless sensor button 55x55 mm, black glossy	EAN 4010312306994	68,10 €/pc.

FT2S-UC-



transmitter module and the sensor module.

centre. Then snap on the large rocker.



Wireless sensor button with intermediate frame and one touch surface



Wireless sensor button with two touch surfaces



Before screwing, remove the mounting base from the frame and the attachment frame. To do this, press the latches on the mounting base outwards. Then screw the mounting base - with the latches left and right -, snap on the frame with the attachment frame and snap on the set comprising the sensor module and rocker.

Wireless pushbutton with sensor key, 80x80 mm external dimensions, internal frame dimensions 55x55mm, 15+15mm high. With intermediate frame. Supply voltage 8 till 230 V UC. Only 0.03 till 0.3 watt standby loss. The scope of supply comprises the frame R, one intermediate frame ZR, one large rocker W, one double rocker DW (all same colour), the mounting base HP with plug-in wireless

The wireless touch button with one rocker can only send one evaluatable signal. This is achieved by teaching in the two touch surfaces behind the rocker in the actuator. With the double rocker

fitted at the factory, two evaluatable signals can be transmitted. The sensor module including

the mounting plate is mounted together with the top and bottom halves of a double rocker to

produce a direction button for an actuator. The connecting wire exits at the bottom rear. Then the top is 'SWITCH ON/DIM UP' and the bottom is 'SWITCH OFF/DIM DOWN'. If two actuators are controlled as universal buttons using the touch button, it is recommended to fit the touch button completely rotated through 90 degrees so that the two double rocker halves are adjacent to each other. Fit using a 55 mm switch box. The wireless electronics device requires an installation depth of only 15 mm. Behind, a 20 cm long black/blue connecting wire is routed to the outside. The double rocker is snapped onto the touch module at the factory. If the rocker has to be exchanged for a large rocker, pull the rocker halves to the front. Do not bend them to the



The Eltako frame can be replaced on installation at any time by a design frame with internal dimensions 55x55 mm from numerous manufacturers.



intermediate frame and



Rockers and double rockers laser engraved page 1-27.













FT2S-UC-ws	Wireless sensor button, white	EAN 4010312306710	60,90 €/pc.
FT2S-UC-rw	Wireless sensor button, pure white	EAN 4010312306727	60,90 €/pc.
FT2S-UC-sz	Wireless sensor button, black	EAN 4010312306734	60,90 €/pc.
FT2S-UC-an	Wireless sensor button, anthracite	EAN 4010312306758	60,90 €/pc.
FT2S-UC-wg	Wireless sensor button, pure white glossy	EAN 4010312306741	60,90 €/pc.
FT2S-UC-si	Wireless sensor button, silver grey glossy	EAN 4010312306772	60,90 €/pc.
FT2S-UC-al	Wireless sensor button, coated/aluminium paint	EAN 4010312306802	68,10 €/pc.
FT2S-UC-sg	Wireless sensor button, black glossy	EAN 4010312310151	68,10 €/pc.

Wireless Pushbutton Lighting FTB



FTB-230 V

min ()



Wireless pushbutton lighting with LED for rear latching to cordless wireless pushbuttons. Supply voltage 230 V. Only 0.1 watt standby loss.

The scope of supply contains an opaque intermediate frame for the wireless pushbutton FT4 or FT4CH.

Fitted using a 55 mm switch box, the LED lighting requires an installation depth of only 15 mm. A 20 cm long black/blue connecting wire is routed to the rear.

The gap between the rocker and the frame lights up on the wireless pushbuttons FT4F and FT55, the opaque intermediate frame lights up on FT4 and FT4CH.

To reduce the lighting intensity replace the opaque cover with one of the two enclosed coloured covers. Caution: You must fit one of these covers, otherwise there is the risk of electric shock.



FT4 with ZR-op

FTB-230V

Pushbutton lighting

EAN 4010312303313

21,20 €/pc.

FTB/8-24 V UC





FT4F-an with FTB

Wireless pushbutton lighting with LED for rear latching to cordless wireless pushbuttons FT4F, FT4 and FT4CH. Supply voltage 8 to 24 V UC. Only 0.04-0.1 watt standby loss.

The scope of supply contains an opaque intermediate frame for wireless pushbutton FT4 or FT4CH.

Fitted using a 55 mm switch box, the LED lighting requires an installation depth of only 15 mm. A 20 cm long red/black connecting wire is routed to the rear.

The gap between the rocker and the frame lights up on the wireless pushbuttons FT4F and FT55, the opaque intermediate frame lights up on FT4 and FT4CH.

To reduce the lighting intensity replace the opaque cover with one of the two enclosed coloured covers. Caution: You must fit one of these covers, otherwise there is the risk of electric shock.



FT4-an with ZR-op

FTB/8-24V UC Pushbutton lighting EAN 4010312303757 18,40 €/pc.

Frames for Flat Pushbuttons, internal dimensions 63x63mm

R1F-, R2F- and R3F-



Double frame R2F with DSS+SDO and BLF Single frame for flat pushbuttons R1F, $80x80\,\text{mm}$ external dimensions, double frame R2F, $80x151\,\text{mm}$ external dimensions, and triple frame R3F, $80x222\,\text{mm}$ external dimensions.

Internal frame dimensions $63x63\,\text{mm}$, $12\,\text{mm}$ high. For the flat range $63x63\,\text{mm}$.

R1F-ws	Single frame for flat pushbuttons white	EAN 4010312904299	3,90 €/pc
R1F-rw	Single frame for flat pushbuttons pure white	EAN 4010312904312	3,90 €/pc
R1F-sz	Single frame for flat pushbuttons black	EAN 4010312904336	3,90 €/pc
R1F-an	Single frame for flat pushbuttons anthracite	EAN 4010312904909	3,90 €/pc
R1F-wg	Single frame for flat pushbuttons pure white glossy	EAN 4010312904343	3,90 €/pc
R1F-cg	Single frame for flat pushbuttons cream-white glossy	EAN 4010312905708	3,90 €/pc
R1F-si	Single frame for flat pushbuttons silver grey glossy	EAN 4010312905593	3,90 €/pc
R1F-al	Single frame for flat pushbuttons coated/aluminium paint	EAN 4010312905715	6,30 €/pc
R1F-sg	Single frame for flat pushbuttons black glossy	EAN 4010312905722	6,30 €/pc
R2F-ws	Double frame for flat pushbuttons white	EAN 4010312904367	4,10 €/pc
R2F-rw	Double frame for flat pushbuttons pure white	EAN 4010312904381	4,10 €/pc
R2F-sz	Double frame for flat pushbuttons black	EAN 4010312904404	4,10 €/pc
R2F-an	Double frame for flat pushbuttons anthracite	EAN 4010312904435	4,10 €/po
R2F-wg	Double frame for flat pushbuttons pure white glossy	EAN 4010312904411	4,10 € /pc
R2F-cg	Double frame for flat pushbuttons cream-white glossy	EAN 4010312905746	4,10 € /pc
R2F-si	Double frame for flat pushbuttons silver grey glossy	EAN 4010312905609	4,10 € /pc
R2F-al	Double frame for flat pushbuttons coated/aluminium paint	EAN 4010312905739	8,90 €/pc
R2F-sg	Double frame for flat pushbuttons black glossy	EAN 4010312905753	8,90 € /po
R3F-ws	Triple frame for flat pushbuttons white	EAN 4010312904442	4,30 €/pc
R3F-rw	Triple frame for flat pushbuttons pure white	EAN 4010312904459	4,30 €/pc
R3F-sz	Triple frame for flat pushbuttons black	EAN 4010312904473	4,30 €/pc
R3F-an	Triple frame for flat pushbuttons anthracite	EAN 4010312904503	4,30 €/pc
R3F-wg	Triple frame for flat pushbuttons pure white glossy	EAN 4010312904480	4,30 €/pc
R3F-cg	Triple frame for flat pushbuttons cream-white glossy	EAN 4010312905845	4,30 €/pc
R3F-si	Triple frame for flat pushbuttons silver grey glossy	EAN 4010312905616	4,30 €/pc
R3F-al	Triple frame for flat pushbuttons coated/aluminium paint	EAN 4010312905760	11,50 € /pc
R3F-sg	Triple frame for flat pushbuttons black glossy	EAN 4010312905777	11,50 € /po

Frames, internal dimensions 55x55mm for Wireless Pushbuttons 50x50mm with intermediate frame and for Wireless Pushbuttons 55x55mm



R-, R2- and R3-



Single frame R, 80x80 mm external dimensions, double frame R2, 80x151 mm external dimensions, and triple frame R3, 80x222 mm external dimensions.

Internal frame dimensions $55x55\,\text{mm}$, $12\,\text{mm}$ high. For the pushbutton and touch button ranges $55x55\,\text{mm}$ and $50x50\,\text{mm}$.

Triple frame R3 with FT4, BLA and DSS+SDO

R-ws	Single frame for pushbuttons white	EAN 4010312902356	3,90 €/pc.
R-rw	Single frame for pushbuttons pure white	EAN 4010312902370	3,90 € /pc.
R-sz	Single frame for pushbuttons black	EAN 4010312902394	3,90 €/pc.
R-an	Single frame for pushbuttons anthracite	EAN 4010312902424	3,90 €/pc.
R-wg	Single frame for pushbuttons pure white glossy	EAN 4010312902400	3,90 € /pc.
R-cg	Single frame for pushbuttons cream-white glossy	EAN 4010312905661	3,90 € /pc.
R-si	Single frame for pushbuttons silver grey glossy	EAN 4010312905654	3,90 €/pc.
R-al	Single frame for pushbuttons coated/aluminium paint	EAN 4010312902363	4,70 €/pc.
R-sg	Single frame for pushbuttons black glossy	EAN 4010312902417	4,70 €/pc.
R2-ws	Double frame for pushbuttons white	EAN 4010312903681	4,10 €/pc.
R2-rw	Double frame for pushbuttons pure white	EAN 4010312903704	4,10 €/pc.
R2-sz	Double frame for pushbuttons black	EAN 4010312903698	4,10 €/pc.
R2-an	Double frame for pushbuttons anthracite	EAN 4010312903711	4,10 €/pc.
R2-wg	Double frame for pushbuttons pure white glossy	EAN 4010312903728	4,10 €/pc.
R2-cg	Double frame for pushbuttons cream-white glossy	EAN 4010312905661	4,10 €/pc.
R2-si	Double frame for pushbuttons silver grey glossy	EAN 4010312905678	4,10 €/pc.
R2-al	Double frame for pushbuttons coated/aluminium paint	EAN 4010312903742	8,90 €/pc.
R2-sg	Double frame for pushbuttons black glossy	EAN 4010312903735	8,90 €/pc.
R3-ws	Triple frame for pushbuttons white	EAN 4010312903766	4,30 €/pc.
R3-rw	Triple frame for pushbuttons pure white	EAN 4010312903780	4,30 €/pc.
R3-sz	Triple frame for pushbuttons black	EAN 4010312903773	4,30 €/pc.
R3-an	Triple frame for pushbuttons anthracite	EAN 4010312903797	4,30 €/pc.
R3-wg	Triple frame for pushbuttons pure white glossy	EAN 4010312903803	4,30 €/pc.
R3-cg	Triple frame for pushbuttons cream-white glossy	EAN 4010312905852	4,30 €/pc.
R3-si	Triple frame for pushbuttons silver grey glossy	EAN 4010312905685	4,30 €/pc.
R3-al	Triple frame for pushbuttons coated/aluminium paint	EAN 4010312903827	11,50 €/pc.
R3-sg	Triple frame for pushbuttons black glossy	EAN 4010312905692	11,50 €/pc.

BLF-



Blind cover BLF for R1F, R2F and R3F.

An attachment frame BRF, a mounting plate HP and an adhesive foil are enclosed. The blind cover snaps flush in the frame after the mounting plate, frame and attachment frame are fitted.

BLF-ws	Blind cover BLF for R1F, R2F and R3F white	EAN 4010312904213	3,10 €/pc.
BLF-rw	Blind cover BLF for R1F, R2F and R3F pure white	EAN 4010312904237	3,10 €/pc.
BLF-sz	Blind cover BLF for R1F, R2F and R3F black	EAN 4010312904251	3,10 €/pc.
BLF-an	Blind cover BLF for R1F, R2F and R3F anthracite	EAN 4010312904282	3,10 €/pc.
BLF-wg	Blind cover BLF for R1F, R2F and R3F pure white glossy	EAN 4010312904268	3,10 €/pc.
BLF-cg	Blind cover BLF for R1F, R2F and R3F cream-white glossy	EAN 4010312905784	3,10 €/pc.
BLF-si	Blind cover BLF for R1F, R2F and R3F silver grey glossy	EAN 4010312905623	3,10 €/pc.
BLF-al	Blind cover BLF for R1F, R2F and R3F coated/aluminium paint	EAN 4010312905791	5,50 €/pc.
BLF-sg	Blind cover BLF for R1F, R2F and R3F black glossy	EAN 4010312905807	5,50 €/pc.

BLA55-



Blind cover BLA55 for R, R2 and R3.

An attachment frame BRF, a mounting plate HP and an adhesive foil are enclosed. The blind cover snaps flush in the frame after the mounting plate, frame and attachment frame are fitted.

BLA55-ws	Blind cover BLA55 for R, R2 and R3 white	EAN 4010312905869	3,10 €/pc .
BLA55-rw	Blind cover BLA55 for R, R2 and R3 pure white	EAN 4010312905883	3,10 €/pc .
BLA55-sz	Blind cover BLA55 for R, R2 and R3 black	EAN 4010312905906	3,10 €/pc.
BLA55-an	Blind cover BLA55 for R, R2 and R3 anthracite	EAN 4010312905937	3,10 €/pc.
BLA55-wg	Blind cover BLA55 for R, R2 and R3 pure white glossy	EAN 4010312905913	3,10 €/pc.
BLA55-cg	Blind cover BLA55 for R, R2 and R3 cream-white glossy	EAN 4010312905890	3,10 €/pc.
BLA55-si	Blind cover BLA55 for R, R2 and R3 silver grey glossy	EAN 4010312905944	3,10 €/pc.
BLA55-al	Blind cover BLA55 for R, R2 and R3 coated/aluminium paint	EAN 4010312905876	5,50 €/pc.
BLA55-sg	Blind cover BLA55 for R, R2 and R3 black glossy	EAN 4010312905920	5,50 €/pc.

BLA-



Blind cover BLA for R, R2 and R3.

An intermediate frame ZR (same colour), a mounting base HP and one adhesive foil come with the blind cover.

The blanking plate is flush with the frame and is engaged in the intermediate frame after fitting the retaining plate, the frame and the intermediate frame ZR.

BLA-ws	Blind cover BLA for R, R2 and R3 white	EAN 4010312903926	3,10 €/pc.
BLA-rw	Blind cover BLA for R, R2 and R3 pure white	EAN 4010312903940	3,10 €/pc.
BLA-sz	Blind cover BLA for R, R2 and R3 black	EAN 4010312903933	3,10 €/pc.
BLA-an	Blind cover BLA for R, R2 and R3 anthracite	EAN 4010312903957	3,10 €/pc.
BLA-wg	Blind cover BLA for R, R2 and R3 pure white glossy	EAN 4010312903964	3,10 €/pc.
BLA-cg	Blind cover BLA for R, R2 and R3 cream-white glossy	EAN 4010312905814	3,10 €/pc.
BLA-si	Blind cover BLA for R, R2 and R3 silver grey glossy	EAN 4010312905838	3,10 €/pc.
BLA-al	Blind cover BLA for R, R2 and R3 coated/aluminium paint	EAN 4010312903988	6,30 €/pc.
BLA-sg	Blind cover BLA for R, R2 and R3 black glossy	EAN 4010312905821	6,30 €/pc.

Fused Safety Socket DSS with Socket Outlet Front SDO



DSS+SDOF-



German Fused Safety Socket DSS with socket outlet front SDOF. With increased shock protection.

The socket base DSS bearing the VDE sign has screw terminals. Fitted in 63x63mm frames R1F, R2F and R3F.

DSS+SD0F-ws	DSS with socket outlet front white	EAN 4010312311295	5,70 €/pc.
DSS+SDOF-rw	DSS with socket outlet front pure white	EAN 4010312311318	5,70 €/pc.
DSS+SD0F-sz	DSS with socket outlet front black	EAN 4010312311332	5,70 €/pc.
DSS+SDOF-an	DSS with socket outlet front anthracite	EAN 4010312311363	5,70 €/pc.
DSS+SDOF-wg	DSS with socket outlet front pure white glossy	EAN 4010312311349	5,70 €/pc.
DSS+SDOF-cg	DSS with socket outlet front cream-white glossy	EAN 4010312311325	5,70 €/pc.
DSS+SD0F-si	DSS with socket outlet front silver grey glossy	EAN 4010312311370	5,70 €/pc.
DSS+SDOF-al	DSS with socket outlet front coated/aluminium paint	EAN 4010312311301	12,90 €/pc.
DSS+SDOF-sg	DSS with socket outlet front black glossy	EAN 4010312311356	12,90 €/pc.

DSS+SDO55-



German Fused Safety Socket DSS with socket outlet front SD055. With increased shock protection.

The socket base DSS bearing the VDE sign has screw terminals. Fitted in $55x55\,\text{mm}$ frames R, R2 and R3.

DSS+SD055-ws	DSS with socket outlet front white	EAN 4010312310830	5,70 €/pc.
DSS+SD055-rw	DSS with socket outlet front pure white	EAN 4010312310854	5,70 €/pc.
DSS+SD055-sz	DSS with socket outlet front black	EAN 4010312310878	5,70 €/pc.
DSS+SD055-an	DSS with socket outlet front anthracite	EAN 4010312310908	5,70 €/pc.
DSS+SD055-wg	DSS with socket outlet front pure white glossy	EAN 4010312310885	5,70 €/pc.
DSS+SD055-cg	DSS with socket outlet front cream-white glossy	EAN 4010312310861	5,70 €/pc.
DSS+SD055-si	DSS with socket outlet front silver grey glossy	EAN 4010312310915	5,70 €/pc.
DSS+SD055-al	DSS with socket outlet front coated/aluminium paint	EAN 4010312310847	12,90 €/pc.
DSS+SD055-sg	DSS with socket outlet front black glossy	EAN 4010312310892	12,90 €/pc.

DSS+SDO-

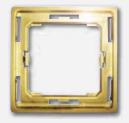


German Fused Safety Socket DSS with socket outlet front SDO. With increased shock protection.

The socket base DSS bearing the VDE sign has screw terminals. Fitted in 55x55mm frames R, R2 and R3 using the enclosed socket intermediate frame SZR.

DSS+SDO-ws	DSS with socket outlet front white	EAN 4010312304181	5,70 €/pc.
DSS+SDO-rw	DSS with socket outlet front pure white	EAN 4010312304310	5,70 €/pc.
DSS+SDO-sz	DSS with socket outlet front black	EAN 4010312304204	5,70 €/pc.
DSS+SDO-an	DSS with socket outlet front anthracite	EAN 4010312304228	5,70 €/pc.
DSS+SDO-wg	DSS with socket outlet front pure white glossy	EAN 4010312304211	5,70 €/pc.
DSS+SDO-cg	DSS with socket outlet front cream-white glossy	EAN 4010312310687	5,70 €/pc.
DSS+SDO-si	DSS with socket outlet front silver grey glossy	EAN 4010312304235	5,70 €/pc.
DSS+SDO-al	DSS with socket outlet front coated/aluminium paint	EAN 4010312304198	12,90 €/pc.
DSS+SDO-sg	DSS with socket outlet front black glossy	EAN 4010312310694	12,90 €/pc.

ZR-



Intermediate frame ZR for wireless pushbuttons FT4, FT4G and FT2S.

The scope of supply of the wireless pushbuttons FT4, FT4G and FT2S comprises one intermediate frame ZR in the same colour. For colour combinations, the intermediate frame ZR is available as a 5-piece set.

In addition to the colours on page 1-0, the intermediate frame ZR is also available in gold vaporised **go**, copper vaporised **ku** and aluminium vaporised **am**.

ZR-ws	5 intermediate frames white	EAN 4010312902288	4,90 €/pc.
ZR-rw	5 intermediate frames pure white	EAN 4010312902301	4,90 €/pc.
ZR-sz	5 intermediate frames black	EAN 4010312902325	4,90 €/pc.
ZR-an	5 intermediate frames anthracite	EAN 4010312902332	4,90 €/pc.
ZR-cg	5 intermediate frames cream-white	EAN 4010312905951	4,90 €/pc.
ZR-si	5 intermediate frames silver grey	EAN 4010312903032	4,90 €/pc.
ZR-al	5 intermediate frames coated/aluminium paint	EAN 4010312902295	8,90 €/pc.
ZR-go	5 intermediate frames vapour-deposited with gold	EAN 4010312902349	16,30 €/pc.
ZR-ku	5 intermediate frames vapour-deposited with copper	EAN 4010312903015	16,30 €/pc.
ZR-am	5 intermediate frames vapour-deposited with aluminium	EAN 4010312903018	16,30 €/pc.

SZR-



Socket intermediate frame SZR for the socket outlet front SDO.

The scope of supply of socket outlet front SDO comprises one socket intermediate frame SZR in the same colour. For colour combinations, the socket intermediate frame SZR is available as a 5-piece set.

In addition to the colours on page 1-0, the socket intermediate frame SZR is also available in gold vaporised **go**, copper vaporised **ku** and aluminium vaporised **am**.

SZR-ws	5 socket intermediate frames white	EAN 4010312903612	4,90 €/pc.
SZR-rw	5 socket intermediate frames pure white	EAN 4010312903858	4,90 €/pc.
SZR-sz	5 socket intermediate frames black	EAN 4010312903841	4,90 €/pc.
SZR-an	5 socket intermediate frames anthracite	EAN 4010312903865	4,90 €/pc.
SZR-cg	5 socket intermediate frames cream-white	EAN 4010312905968	4,90 €/pc.
SZR-si	5 socket intermediate frames silver grey	EAN 4010312903902	4,90 €/pc.
SZR-al	5 socket intermediate frames coated/aluminium paint	EAN 4010312903872	8,90 €/pc.
SZR-go	5 socket intermediate frames vapour-deposited with gold	EAN 4010312903889	16,30 €/pc.
SZR-ku	5 socket intermediate frames vapour-deposited with copper	EAN 4010312906163	16,30 €/pc.
SZR-am	5 socket intermediate frames vapour-deposited with aluminium	EAN 4010312903896	16,30 €/pc.

Wireless Sensors, Pushbuttons without battery or wire FT4CH and BLA-CH, Swiss Design



FT4CH-





Wireless pushbutton with intermediate frame and rocker (without frame)



Wireless pushbutton with intermediate frame and double rocker (without frame)

Wireless pushbuttons, for internal frame dimensions $60x60\,\text{mm}$, $15\,\text{mm}$ high. Generates the power for wireless telegrams itself when the button is pressed, therefore there is no connecting wire and no standby loss.

For Swiss cover frames from ABB Normelec, Feller and Hager.

The scope of supply comprises one large rocker, one double rocker, one intermediate frame (all same colour), the mounting base, the wireless module and one adhesive foil.

Wireless pushbuttons with one rocker can transmit two evaluable signals: press rocker up and press rocker down. Wireless pushbuttons with double rocker can transmit four evaluable signals: press two rockers up or down.

The mounting base can be screwed onto a flat surface or glued to the wall, on glass or on furniture using the enclosed adhesive foil. Use the sleeves in the 55 mm socket box for screw mounting. Then the **wireless switch lighting FTB** can be snapped into the mounting plate from the rear. The double rocker is snapped onto the wireless module at the factory. If the double rocker is replaced by the large rocker, remove the rocker halves by pulling off to the front. Do not bend towards the middle. Then snap the large rocker so that the markings 0 and I on the back line up with the same markings on the wireless module.

Adhesion: First adhere *the mounting base and intermediate frame* - with the latches pointing at the top and bottom. Then snap on the set *comprising the wireless module and rocker* - with the marking 0 on the back always pointing up.

Before screwing, remove the mounting base from the intermediate frame.

To do this, press the latches on the mounting base outwards. Then screw the mounting base - with the latches at top and bottom -, snap on the frame with the intermediate frame and snap on the set *comprising the wireless module and rocker* - with the marking 0 on the back always pointing to the top.

We recommend sheet metal countersink screws 2.9x25 mm, DIN 7982 C, for screw connections. Both with rawl plugs 5x25 mm and with 55 mm switch boxes. See Accessories on page Z-4.

Rockers laser engraved page 1-27.

FT4CH-ws	Wireless pushbutton without battery or wire, without frame white (61)	EAN 4010312300978	40,70 €/pc.
FT4CH-hg	Wireless pushbutton without battery or wire, without frame light grey (65)	EAN 4010312300985	40,70 €/pc.
FT4CH-sz	Wireless pushbutton without battery or wire, without frame black (60)	EAN 4010312300992	40,70 €/pc.

BLA-CH-



(without frame)

Blind cover BLA-CH for internal frame dimensions 60x60 mm.

Supplied colours same as for pushbutton FT4CH.

An intermediate frame ZR-CH (same colour) and a mounting base HP-CH come with the blind cover. The blanking plate is flush with the frame and is engaged in the intermediate frame after fitting the mounting base, the frame and the intermediate frame.

BLA-CH-ws	Blind cover white (61), without frame	EAN 4010312904053	5,10 €/pc.
BLA-CH-hg	Blind cover light grey (65), without frame	EAN 4010312904060	5,10 €/pc.
BLA-CH-sz	Blind cover black (60), without frame	EAN 4010312904077	5,10 €/pc.

FTR55H-CH-w





Wireless temperature controller with hand wheel for surface mounting and integration in the 60x60 mm switch system. Own power supply from integrated solar cell.

For Swiss cover frames from ABB Normelec, Feller and Hager.

The scope of supply comprises the FTR55H and one intermediate frame ZR-CH in the same colour, the mounting base and one adhesive foil.

Description see FTR55H.

Also available in light grey hg (65) and black sz (60).

FTR55H-CH-w

Temperature controller with hand wheel, white (61)

EAN 4010312312155

83,20 €/pc.

FTR55D-CH-w





Wireless temperature controller with display for surface mounting and integration in the $60 \times 60 \, \text{mm}$ switch system. Own power supply from integrated solar cell.

For Swiss cover frames from ABB Normelec, Feller and Hager.

The scope of supply comprises the FTR55D and one intermediate frame ZR-CH in the same colour, the mounting base and one adhesive foil.

Description see FTR55D.

Also available in light grey hg (65) and black sz (60).

FTR55D-CH-w

Temperature controller with display, white (61)

EAN 4010312305065

145,30 €/pc.

FEA55D-CH-w





Wirless energy consumption indicator with display for individual fitting and integration in the $60x60\,\text{mm}$ switch system. Standby loss 0.8 watt only.

For Swiss cover frames from ABB Normelec, Feller and Hager.

The scope of supply comprises the FEA55D and one intermediate frame ZR-CH in the same colour, the mounting base and one adhesive foil.

Description see FEA55D.

Also available in light grey hg (65) and black sz (60).

FEA55D-CH-w

Energy consumption indicator with display, weiss (61)

EAN 4010312304419

64,50 €/pc.

FSU55D-CH-w





Wireless timer with display and with 8 channels for individual fitting and integration in the $60x60 \, \text{mm}$ switch system. From production week 39/11 with 'astro' function. Only 0.2 watt standby loss.

For Swiss cover frames from ABB Normelec, Feller and Hager.

The scope of supply comprises the FSU55D and one intermediate frame ZR-CH in the same colour, the mounting base and one adhesive foil.

Description see FSU55D.

Also available in light grey hg (65) and black sz (60).

FSU55D-CH-w

Timer with display, white (61)

EAN 4010312305096

84,90 €/pc.

Rockers and Double Rockers laser engraved W and DW



W + DW



Rockers and double rockers laser engraved.

For all pushbuttons and hand-held transmitters we provide rockers and double rockers offered in all colors and hand-held transmitters with laser engraving.

The additional title +2P will do for each arrow top (up) and bottom (down).

The additional title +OI will do for O (=off) top and I (=on) down.

The additional title +IO will do for I (=on) top and O (=off) down.

Other prints with a maximum of 6 lines must be characterized and then we engrave it in Arial font. Maximum of two lines at the top, middle and bottom.

If we receive an E-mail to LGI@eltako.de with an Adobe Illustrator or Corel Draw file with the extension .ai or .cdr, we engrave individual customer requirements.

Rockers: W-FT4F/4GF/2SF, W-FT55/55G/55S, W-FT4/4G/2S, W-FMT55/2-, W-FT4CH, W-FHS/FMH2

add. nomenclature add. nomenclature according to ...+01

...+2P







Rockers: W-FFT55Q Double rockers: DW-FF8

according to individual customer specifications



...+2P

add. nomenclature according to individual customer specifications



Double rockers: DW-FT4F/4GF, DW-FT55/55G, DW-FT4/4G, DW-FMT55/4-, DW-FHS, DW-FHS/FMH4

add. nomenclature add. nomenclature according to ...+10 ...+2P



individual customer specifications



Double rockers: DW-FT2SF, DW-FT55S, DW-FT2S

add. nomenclature add. nomenclature according to ...+10



individual customer specifications





W-FFT55Q	Rocker for wireless flat pushbuttons ws/rw/sz/an/wg/si/al or sg	EAN 4010312906255	5,90 €/pc.
W-FT4F/4GF/2SF	Rocker for wireless flat pushbuttons ws/rw/sz/an/wg/cg/si/al bzw. sg	EAN 4010312906262	5,90 €/pc.
DW-FT4F/4GF/2SF	Double rocker for wireless flat pushbuttons ws/rw/sz/an/wg/cg/si/al bzw. sg	EAN 4010312906279	6,30 €/pc.
W-FT55/55G/55S	Rocker for wireless pushbuttons 55x55mm ws/rw/sz/an/wg/cg/si/al bzw. sg	EAN 4010312906286	5,90 €/pc.
DW-FT55/55G/55S	Double rocker for wireless pushbuttons 55x55mm ws/rw/sz/an/wg/cg/si/al bzw. sg	EAN 4010312906293	6,30 €/pc.
W-FT4/4G/2S	Rocker for wireless pushbuttons with intermediate frame ws/rw/sz/an/wg/cg/si/al bzw. sg	EAN 4010312906309	5,90 €/pc.
DW-FT4/4G/2S	Double rocker for wireless pushbuttons with intermediate frame ws/rw/sz/an/wg/cg/si/al bzw. sg	EAN 4010312906316	6,30 €/pc.
W-FMT55/2	Rocker for wireless mini pushbuttons ws/rw/sz/an/wg/si/al bzw. sg	EAN 4010312906323	5,90 €/pc.
DW-FMT55/4	Double rocker for wireless mini pushbuttons ws/rw/sz/an/wg/si/al bzw. sg	EAN 4010312906330	6,30 €/pc.
W-FT4CH	Rocker for wireless pushbuttons Swiss Design ws (61)/hg (65)/sz(60)	EAN 4010312906347	6,30 €/pc.
DW-FT4CH	Double rocker for wireless pushbuttons Swiss Design ws (61)/hg (65)/sz(60)	EAN 4010312906385	6,70 €/pc.
W-FHS/FMH2	Rocker for wireless hand-held transmitters and mini hand- held transmitters FMH2 ws/rw/sz/an/wg/si/al or sg	EAN 4010312906354	5,90 €/pc.
DW-FHS/FMH4	Double rocker for wireless hand-held transmitters and mini hand-held transmitters FMH4 ws/rw/sz/an/wg/si/al or sg	EAN 4010312906361	6,30 €/pc.
DW-FF8	Double rocker for wireless remote control anthracite-soft paint	EAN 4010312906378	6,30 €/pc.

Universal Remote Control UFB, Hand-held Transmitters FHS and Mini Hand-held Transmitters FMH





Universal remote control

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Hand-held transmitters

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Mini hand-held transmitters

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UFB-Harmony One+E



Control Eltako wireless actuators and entertainment electronics with only one remote control!

LOGITECH Harmony One+ universal remote control for almost all entertainment electronics devices. Additionally with 28 channels plus one 4-way scene control for the Eltako Wreless Building.

This universal remote control not only replaces 14 single remote controls, but, **when used together with a wireless infrared converter FIW55 or FIW-USB,** converts infrared telegrams into wireless telegrams for the Eltako wireless network.

This remote control is supported by data records for almost all commercially available electronic entertainment equipment of both old and recent date. The data records are available online for downloading. For this reason, this universal remote control very easily replaces all the single remote controls in a room.

Before shipment, we load a special Eltako FIW data record in the original Harmony One or One+ remote control. These infrared signals are converted into wireless telegrams by a wireless infrared converter FIW and transmitted to the Eltako wireless network.

This data record can be loaded by any owner of a Harmony One backed by the enclosed Logitech User Manual. The data record is in the Logitech menu from equipment manufacturer Eltako and is named FIW55.

If you download for entertainment electronic equipment, also select the FIW data record, otherwise it is deleted in the UFB.

An actuator can be controlled by each of the 28 channels, e.g. for lighting, blinds, awnings and roller shutters as described with the infrared converters FIW55 and FIW-USB.

WEEE registration number DE 52635780

Wireless Sensor Infrared Converter FIW-USB



FIW-USB





Wireless infrared converter with USB port. Only 0.05 watt standby loss.

Either connect to a device with power supply to the USB socket or use a USN charger for mains voltage. USB plug Type A with 2m connecting cable.

The wireless infrared converter converts the predefined infrared telegrams of the universal remote control UFB-Harmony One into wireless telegrams for the Eltako wireless network. Otherwise it has no function of its own.

The downstream wireless actuators are taught in and then controlled using the keys on the universal remote control. The green LED on the FIW indicates every detected infrared telegram.

One actuator can be controlled by each of the max 32 channels e.g. for lighting, blinds, awnings and roller shutters.

In as-delivered state, the FIW sends a message every time one of the numeric buttons on the UFB is clicked. This permits the teach-in of 10 rapid channels using the numeric buttons.

If additional channels are required, switch over to the 'double-click' function by using the key sequence 7 and 3 on the UFB within 10 seconds after switching on the FIW power supply. In this function an additional 10 channels 00, 11, 22, 33 etc. up to 99 can be taught-in.

Press the key sequence 9 and 1 within 10 seconds after switching on the power supply to reset to single-click.

The numeric buttons in the actuators can be taught-in either as direction switches or universal switches. Dim function with up and down arrow buttons in the navigation cross.

When a numeric button in the associated actuator is taught-in as direction button, first select the channel by pressing the numeric button when the device is in service, then control by pressing the up and down arrow buttons in the navigation cross.

Another 4 channels can be set to the + and - of the volume and channel buttons, e.g. for the central control of lighting and shading.

A further 3 direction buttons can be taught-in directly using the left and right buttons in the navigation cross, the fast forward and fast reverse buttons and the buttons for forward skip and reverse skip.

In addition, the four labelled buttons in the display with the colours red, green, yellow and blue are available as scene buttons for lighting or shading. You can change their labels using the enclosed CD and a Logitech Internet access. The central control signals ON/OFF or UP/DOWN can also be taught-in here as scenes and labelled accordingly.

WEEE registration number DE 30298319

FIW55-





Wireless infrared converter for individual fitting or integration in the $55x55\,\text{mm}$ and $63x63\,\text{mm}$ switch system. Only 0.4 watt standby loss.

Power supply 230 V.

The scope of supply includes a frame R, an intermediate frame ZR in the same colour and a mounting plate. In addition, an intermediate frame ZRF in the same colour is supplied for installation in an existing frame R1F, R2F or R3F for flat pushbuttons.

A 20cm long wire is located at the rear for the 230V power connection, black (L) and blue (N). Otherwise no further installation depth is required behind the mounting plate.

We recommend sheet metal countersink screws 2.9x25mm, DIN 7982 C, for screw connections on 55mm switch boxes. See Accessories on page Z-4.

The wireless infrared converter converts the predefined infrared telegrams of the universal remote control UFB-Harmony One into wireless telegrams for the Eltako wireless network. Otherwise it has no function of its own.

The downstream wireless actuators are taught in and then controlled using the keys on the universal remote control. The green LED on the FIW indicates every detected infrared telegram.

One actuator can be controlled by each of the max 32 channels e.g. for lighting, blinds, awnings and roller shutters.

In as-delivered state, the FIW sends a message every time one of the numeric buttons on the UFB is clicked. This permits the teach-in of 10 rapid channels using the numeric buttons.

If additional channels are required, switch over to the "double-click" function by using the key sequence 7 and 3 on the UFB within 10 seconds after switching on the FIW power supply. In this function an additional 10 channels 00, 11, 22, 33 etc. up to 99 can be taught-in.

Press the key sequence 9 and 1 within 10 seconds after switching on the power supply to reset to single-click.

The numeric buttons in the actuators can be taught-in either as direction switches or universal switches. Dim function with up and down arrow buttons in the navigation cross.

When a numeric button in the associated actuator is taught-in as direction button, first select the channel by pressing the numeric button when the device is in service, then control by pressing the up and down arrow buttons in the navigation cross.

Another 4 channels can be set to the + and - of the volume and channel buttons, e.g. for the central control of lighting and shading.

A further 3 direction buttons can be taught-in directly using the left and right buttons in the navigation cross, the fast forward and fast reverse buttons and the buttons for forward skip and reverse skip.

In addition, the four labelled buttons in the display with the colours red, green, yellow and blue are available as scene buttons for lighting or shading. You can change their labels using the enclosed CD and a Logitech Internet access. The central control signals ON/OFF or UP/DOWN can also be taught-in here as scenes and labelled accordingly.

FIW55-ws	Wireless infrared converter white	EAN 4010312303238	88,90 €/pc.
FIW55-rw	Wireless infrared converter pure white	EAN 4010312303252	88,90 €/pc.
FIW55-sz	Wireless infrared converter black	EAN 4010312303269	88,90 €/pc.
FIW55-wg*	Wireless infrared converter pure white glossy	EAN 4010312303276	88,90 €/pc.
FIW55-al	Wireless infrared converter coated/aluminium paint	EAN 4010312308820	97,70 €/pc.

Remote Control FF8





FF8-





Wireless remote control 185x50 mm, 17 mm high.

The batteryless remote control FF8 contains two identical wireless modules the same as the cordless wireless pushbuttons FT4 and has 2 double rockers. It can transmit 8 evaluable wireless

The top is painted in aluminum and the bottom and the rockers have an anthracite-soft paint. The rockers can be easily removed and replaced with laser engraved rockers.

Compared to the wireless pushbuttons and hand-held transmitters the wireless modules are rotated 90° to the left. Therefore the upper half of the rocker corresponds to the right half of the pushbutton and the hand-held transmitter.

This must be considered when teaching-in in wireless actuators.

If wireless modules will be exchanged, the label 0 has to be on the left.

June 2012.

Double rockers laser engraved page 1-27.







WEEE-registration number DE 30298319

FF8-al/an

Wireless remote control with 2 double rockers, painted aluminium top, bottom and rockers anthracite-soft paint

EAN 4010312303931

99,90 €/pc.

Wireless Sensors Hand-held Transmitters FHS8



FHS8-





Wireless hand-held transmitter 154x50 mm, 16 mm high.

The batteryless hand-held transmitter FHS8 contains two identical wireless modules the same as the cordless wireless pushbuttons FT4 and has 2 double rockers. It can transmit 8 evaluable wireless telegrams.

This wireless hand-held transmitter can be attached to the wall, on glass or on furniture using an adhesive foil. Enclosed are 2 labels for the rear and 1 adhesive foil.

Double rockers laser engraved page 1-27.







WEEE registration number DE 30298319

FHS8-ws	Wireless hand-held transmitter white with 2 double rockers	EAN 4010312300145	68,70 €/pc.
FHS8-rw	Wireless hand-held transmitter pure white with 2 double rockers	EAN 4010312300862	68,70 €/pc.
FHS8-sz	Wireless hand-held transmitter black with 2 double rockers	EAN 4010312300848	68,70 €/pc.
FHS8-an	Wireless hand-held transmitter anthracite with 2 double rockers	EAN 4010312300824	68,70 €/pc.
FHS8-wg	Wireless hand-held transmitter pure white glossy with 2 double rockers	EAN 4010312300947	68,70 €/pc.
FHS8-si	Wireless hand-held transmitter silver grey glossy with 2 double rockers	EAN 4010312303948	68,70 €/pc.
FHS8-al	Wireless hand-held transmitter coated/aluminium paint with 2 double rockers	EAN 4010312300282	80,30 €/pc.
FHS8-sg	Wireless hand-held transmitter black glossy with 2 double rockers	EAN 4010312300428	80,30 €/pc.
FHS8-ac	Wireless hand-held transmitter anthracite/chrome with 2 double rockers; anthracite-soft painting	EAN 4010312300893	80,30 €/pc.

FHS12-





Wireless hand-held transmitter 154x50 mm, 16 mm high.

The batteryless hand-held transmitter FHS12 contains three identical wireless modules the same as the cordless wireless pushbuttons FT4 and has 3 double rockers. It can transmit 12 evaluable wireless telegrams.

This wireless hand-held transmitter can be attached to the wall, on glass or on furniture using an adhesive foil. Enclosed are 2 labels for the rear and 1 adhesive foil.

Double rockers laser engraved page 1-27.







WEEE registration number DE 30298319

FHS12-ws	Wireless hand-held transmitter white with 3 double rockers	EAN 4010312300312	99,90 €/pc.
FHS12-rw	Wireless hand-held transmitter pure white with 3 double rockers	EAN 4010312300343	99,90 €/pc.
FHS12-sz	Wireless hand-held transmitter black with 3 double rockers	EAN 4010312300855	99,90 €/pc.
FHS12-an	Wireless hand-held transmitter anthracite with 3 double rockers	EAN 4010312300831	99,90 €/pc.
FHS12-wg	Wireless hand-held transmitter pure white glossy with 3 double rockers	EAN 4010312300954	99,90 €/pc.
FHS12-si	Wireless hand-held transmitter silver grey glossy with 3 double rockers	EAN 4010312304020	99,90 €/pc.
FHS12-al	Wireless hand-held transmitter coated/aluminium paint with 3 double rockers	EAN 4010312300329	114,80 €/pc.
FHS12-sg	Wireless hand-held transmitter black glossy with 3 double rockers	EAN 4010312300435	114,80 €/pc.
FHS12-ac	Wireless hand-held transmitter anthracite/chrome with 3 double rockers; anthracite-soft painting	EAN 4010312300909	114,80 €/pc.

Wireless Sensors Mini Hand-held Transmitters FMH8



NEW

FMH8





Wireless mini hand-held transmitter $45x85\,\text{mm}$, $18\,\text{mm}$ high. Weighs only 60 grams.

The batteryless mini hand-held transmitter FMH8 contains the same wireless module as the wireless pushbuttons FT4 and has 8 pushbuttons. It can transmit 8 evaluable wireless telegrams. The housing is laser-engraved with the numerals 1 to 8.

WEEE registration number DE 30298319

NEW

FMH8+LGI-





Wireless mini hand-held transmitter 45x85 mm, 18 mm high. Weighs only 60 grams. Individual laser engraving LGI with text according to customer request.

The batteryless mini hand-held transmitter FMH8 contains the same wireless module as the wireless pushbuttons FT4 and has 8 pushbuttons. It can transmit 8 evaluable wireless telegrams. The housing is engraved by laser to customer specifications.

WEEE registration number DE 30298319

FMH8-rw	Wireless mini hand-held transmitter pure white, 8 signals	EAN 4010312311714	69,50 €/pc.
FMH8-an	Wireless mini hand-held transmitter anthracite, 8 signals	EAN 4010312311707	69,50 €/pc.
FMH8-al/an	Wireless mini hand-held transmitter, the top is painted in aluminum and the bottom and the pushbuttons have an anthracite-soft paint, 8 signals	EAN 4010312313282	76,00 €/pc.
FMH8+LGI-rw	Wireless mini hand-held transmitter pure white, 8 signals, laser engraved	EAN 4010312311721	76,50 €/pc.
FMH8+LGI-an	Wireless mini hand-held transmitter anthracite, 8 signals, laser engraved	EAN 4010312311752	76,50 €/pc.
FMH8+LGI-al/an	Wireless mini hand-held transmitter, the top is painted in aluminum and the bottom and the pushbuttons have an anthracite-soft paint, 8 signals, laser engraved	EAN 4010312313299	83,70 €/pc.

FMH2- and FMH2S-





Wireless mini hand-held transmitter 43x43mm, 16mm high. Weighs only 30 grams.

The batteryless mini hand-held transmitter FMH2 contains the same wireless module as the cordless wireless pushbuttons FT4 and has 1 rocker. It can transmit 2 evaluable wireless telegrams. The rocker is laser engraved with 0 and 1.

This wireless hand-held transmitter can be attached to the wall, on glass or on furniture using an enclosed adhesive foil.

The mini hand-held transmitter FMH2S is also prepared to attach a key ring.

The mini hand-held transmitter is supplied with the following engraving: O (= OFF) on upper part and I (= ON) on bottom part.

Rockers laser engraved page 1-27.





WEEE registration number DE 30298319

FMH2-ws	Wireless mini hand-held transmitter white, 2 signals, laser engraved 0 + I	EAN 4010312303450	36,30 €/pc.
FMH2-rw	Wireless mini hand-held transmitter pure white, 2 signals, laser engraved 0 + I	EAN 4010312303467	36,30 €/pc.
FMH2-sz	Wireless mini hand-held transmitter black, 2 signals, laser engraved 0 + I	EAN 4010312303474	36,30 €/pc.
FMH2-an	Wireless mini hand-held transmitter anthracite, 2 signals, laser engraved 0 + I	EAN 4010312303498	36,30 €/pc.
FMH2-wg	Wireless mini hand-held transmitter pure white glossy, 2 signals, laser engraved 0 + I	EAN 4010312303481	36,30 €/pc.
FMH2-si	Wireless mini hand-held transmitter silver grey glossy, 2 signals, laser engraved 0 + I	EAN 4010312303504	36,30 €/pc.
FMH2-al	Wireless mini hand-held transmitter coated/aluminium paint, 2 signals, laser engraved 0 + I	EAN 4010312305294	40,70 €/pc.
FMH2-sg	Wireless mini hand-held transmitter black glossy, 2 signals, laser engraved 0 + I	EAN 4010312305287	40,70 €/pc.
FMH2S-ws	Wireless mini hand-held transmitter white for key ring, 2 signals, laser engraved 0 + I	EAN 4010312303368	38,50 €/pc.
FMH2S-rw	Wireless mini hand-held transmitter pure white for key ring, 2 signals, laser engraved 0 + I	EAN 4010312303375	38,50 €/pc.
FMH2S-sz	Wireless mini hand-held transmitter black for key ring, 2 signals, laser engraved 0 + I	EAN 4010312303382	38,50 €/pc.
FMH2S-an	Wireless mini hand-held transmitter anthracite for key ring, 2 signals, laser engraved 0 + I	EAN 4010312303405	38,50 €/pc.
FMH2S-wg	Wireless mini hand-held transmitter pure white glossy for key ring, 2 signals, laser engraved 0 + I	EAN 4010312303399	38,50 €/pc.
FMH2S-si	Wireless mini hand-held transmitter silver grey glossy for key ring, 2 signals, laser engraved 0 + I	EAN 4010312303412	38,50 €/pc.
FMH2S-al	Wireless mini hand-held transmitter coated/aluminium paint for key ring, 2 signals, laser engraved 0 + I	EAN 4010312305256	42,90 €/pc.
FMH2S-sg	Wireless mini hand-held transmitter black glossy for key ring, 2 signals, laser engraved 0 + I	EAN 4010312305324	42,90 €/pc.

Wireless Sensors Mini Hand-held Transmitters FMH4



FMH4- and FMH4S-





Wireless mini hand-held transmitter 43x43mm, 16mm high. Weighs only 30 grams.

The batteryless mini hand-held transmitter FMH4 contains the same wireless module as the cordless wireless pushbuttons FT4 and has 1 double rocker. It can transmit 4 evaluable wireless telegrams. The double rocker is laser engraved with 1, 2, 3 and 4.

This wireless hand-held transmitter can be attached to the wall, on glass or on furniture using an enclosed adhesive foil.

The mini hand-held transmitter FMH4S is also prepared to attach a key ring.

The mini hand-held transmitter is supplied with the following engraving:

'1' on upper part left, '2' on upper part right, '3' on bottom part left and '4' on bottom part right.

Double rockers laser engraved page 1-27.







Wireless mini hand-held transmitter white,

WEEE registration number DE 30298319

FMH4-ws	4 signals, laser engraved 1+2+3+4	EAN 4010312301029	38,30 € /pc.
FMH4-rw	Wireless mini hand-held transmitter pure white, 4 signals, laser engraved 1+2+3+4	EAN 4010312301036	38,30 €/pc.
FMH4-sz	Wireless mini hand-held transmitter black, 4 signals, laser engraved 1+2+3+4	EAN 4010312301012	38,30 €/pc.
FMH4-an	Wireless mini hand-held transmitter anthracite, 4 signals, laser engraved 1+2+3+4	EAN 4010312301043	38,30 €/pc.
FMH4-wg	Wireless mini hand-held transmitter pure white glossy, 4 signals, laser engraved 1+2+3+4	EAN 4010312301067	38,30 €/pc.
FMH4-si	Wireless mini hand-held transmitter silver grey glossy, 4 signals, laser engraved 1+2+3+4	EAN 4010312303436	38,30 €/pc.
FMH4-al	Wireless mini hand-held transmitter coated/aluminium paint, 4 signals, laser engraved 1+2+3+4	EAN 4010312301975	42,70 €/pc.
FMH4-sg	Wireless mini hand-held transmitter black glossy, 4 signals, laser engraved 1+2+3+4	EAN 4010312301050	42,70 €/pc.
FMH4S-ws	Wireless mini hand-held transmitter white for key ring, 4 signals, laser engraved 1+2+3+4	EAN 4010312301371	40,50 €/pc.
FMH4S-rw	Wireless mini hand-held transmitter pure white for key ring, 4 signals, laser engraved 1+2+3+4	EAN 4010312301562	40,50 €/pc.
FMH4S-sz	Wireless mini hand-held transmitter black for key ring, 4 signals, laser engraved 1+2+3+4	EAN 4010312301555	40,50 €/pc.
FMH4S-an	Wireless mini hand-held transmitter anthracite for key ring, 4 signals, laser engraved 1+2+3+4	EAN 4010312301579	40,50 €/pc.
FMH4S-wg	Wireless mini hand-held transmitter pure white glossy for key ring, 4 signals, laser engraved 1+2+3+4	EAN 4010312301586	40,50 €/pc.
FMH4S-si	Wireless mini hand-held transmitter silver grey glossy for key ring, 4 signals, laser engraved 1+2+3+4	EAN 4010312303429	40,50 €/pc.
FMH4S-al	Wireless mini hand-held transmitter coated/aluminium paint for key ring, 4 signals, laser engraved 1+2+3+4	EAN 4010312305270	44,90 €/pc.

FMH2S-wr

THE THE

Wireless mini hand-held transmitter for calling systems 43x43mm, 16mm high. Weighs only 48 grams.

The mini hand-held transmitter FMH2S-wr without battery for calling systems has a pure white rocker with red lettering and a grey carry strap.

It transmits a wireless telegram to the Eltako wireless network each time you make a confirmation (by pressing on the red button).

When operated (by pressing on the red button) it transmits the same wireless telegram as a wireless pushbutton and can therefore be taught-in in actuators and the FVS software in the same way. If it will be taught-in in an actuator as 'central on' as an emergency call switch the emergency can only be received with another taught-in switch with 'central off'.

For display we recommend the universal display FUA55LED with 10 LEDs.

FMH2S-wr

Wireless Sensor Window/Door Contact F<u>TK</u>



FTK







Wireless window/door contact 75x25x12 mm, pure white/silver grey/anthracite

The batteryless window/door contact FTK powers itself from a solar cell and stores the energy for night operation.

A signal is transmitted when the contact is opened or closed.

Every 15 minutes a signal indicating the current status is also transmitted.

Adhesive foil mounting. Protection class IP54, therefore suitable for outdoor mounting.

Window/door contact dimensions lxwxh: 75x25x12mm;

magnet dimensions Ixwxh: 37x10x6mm.

Solar-powered energy accumulator: For testing porposes or for operating the device, the FTK needs to be charged several hours at daylight or at artificial light. The device is then ready for immediate operation in compliance with the actuator operating instructions.

Here, the magnet need only be briefly halted at the point marked \blacksquare after the actuator to be taught-in is activated.

After window/door contacts FTK are taught-in in switching actuators FSA12, it is possible to link up to 32 FTKs. Please refer to the actuator operating instructions.

When a wireless window/door contact FTK is taught-in in switching actuators FSB12, FSB61NP or FSB70, a lock-out protection is set up while the door is open and disables a Central Down command. Please refer to the actuator operating instructions.

After the window/door contacts FTK are taught-in in switching actuators FHK12, FHK61, FZK12, FZK61, FZK70 or FHK70, heating and air-conditioning equipment are switched off when windows are opened.

For more assignments, please see the teach-in list on page 2-20.

Both the window/door contact and the magnet have an approx. 10 mm long notch to mark the point where they must be located next to each other when the window is closed. They may not be spaced more than 5 mm apart.

The wireless sensor can be taught-in into the following actuators and the wireless visualization and control software: F2L61, F2L70, F4H12, F4L12, FADS60, FGM, FHK12, FHK61, FHK70, FLC61, FMZ12, FMZ61, FSB12, FSB61, FSB70, FSR12, FSR61, FSR70, FTN12, FTN61, FUA55LED, FUT55D, FZK12, FZK61, FZK70

FTK-rw	Wireless window/door contact pure white	EAN 4010312305010	67,40 €/pc.
FTK-si	Wireless window/door contact silver grey	EAN 4010312305171	67,40 €/pc.
FTK-an	Wireless window/door contact anthracite	EAN 4010312305164	67,40 €/pc.

FHF-





Wireless Hoppe 'SecuSignal' window handles with integrated wireless transmit module, no battery or cable required. Transmit wireless telegrams automatically when windows are opened, tilted or closed.

The scope of supply includes complete installation materials.

Suppliable with or without lock. Teach-in possible in numerous actuators as shown in teach-in list on page 2-20. The list includes the universal wireless indicator FUA55LED.



The wireless sensor can be taught-in into the following actuators and the wireless visualization and control software: F2L61, F2L70, F4H12, F4L12, FADS60, FGM, FHK12, FHK61, FHK70, FLC61, FMZ12, FSB12, FSB61, FSB70, FSR12, FSR61, FSR70, FUA55LED, FUT55D, FZK12, FZK61, FZK70

FHF-vw	Window handle traffic-white	EAN 4010312304686	63,80 €/pc.
FHFS-vw	Window handle traffic-white with lock	EAN 4010312304693	80,50 €/pc.
FHF-al	Window handle handle aluminium steel	EAN 4010312304709	64,50 €/pc.
FHFS-al	Window handle aluminium steel with lock	EAN 4010312304716	83,70 €/pc.
FHF-em	Window handle stainless steel matt	EAN 4010312304723	110,10 €/pc.

Wireless Sensor Hotel Key Card Switch FKF



FKF-





FKF-rw

Wireless card switch 80x80 mm external dimensions, with internal frame dimensions 63x63 mm, 27 mm high.

When the hotel key card in standard bank card format 86x54mm is inserted and removed, a wireless telegram is sent over the Eltako wireless network.

The scope of supply comprises the two-part card guide in the same colour as frame R1F and an attachment frame BRF, one mounting base HP-KS, one wireless module with rocker and one adhesive foil.

Mounting

Secure the mounting plate by screwing or bonding. Engage the frame with the hook-in recesses at top with the attachment frame and snap in the transmitter module with the mark 0 pointing up. Insert the assembled card guide in the hook-in recesses of the frame and screw tight in the bottom of the mounting plate using the supplied screw.

Worn card guides can be easily replaced without changing the transmitter module.

We recommend sheet metal countersink screws $2.9x25\,\text{mm}$, DIN 7982 C, for screw connections. Both with rawl plugs $5x25\,\text{mm}$ and with $55\,\text{mm}$ switch boxes. See Accessories on page Z-4.

Fitting actuators

The wireless timers for card switches FZK12-12V DC, FZK61NP-230V and FZK70-230V were specially developed to activate the wireless card switch FKF. A release delay and a response delay are adjustable on these switching relays.

To switch higher loads than specified in the technical data, the actuator must switch a contactor. In this case do not activate the zero crossing circuit on the FZK12-12 V DC.

The wireless sensor can be taught-in into the following actuators and the wireless visualization and control software: FGM, FLC61, FMS12, FMZ61, FSR12, FSR61, FSR70, FZK61, FZK61, FZK70

FKF-ws	Hotel key card switch white	EAN 4010312302606	43,60 €/pc.
FKF-rw	Hotel key card switch pure white	EAN 4010312302613	43,60 €/pc.
FKF-wg	Hotel key card switch pure white glossy	EAN 4010312302644	43,60 €/pc.

FKC-





FKC-rw



A: Guest card encoding KCG



B: Service card encoding KCS

Wireless card switch with encoding 80x80 mm external dimensions, with internal frame dimensions 63x63 mm, 27 mm high.

When the encoded key card in standard bank card format 86x54mm is inserted and removed, a wireless telegram is sent over the Eltako wireless network.

The scope of supply comprises the two-part card guide in the same colour as frame R1F and an attachment frame BRF, one mounting base HP-KS, one wireless module and one adhesive foil.

Only **guest cards KCG** with 2 cut-outs and 2 coding slits can be inserted in the card reader slot. Please refer to Drawing A below. Normal cheque cards do not emit a wireless telegram since they cannot be inserted deep enough.

In addition, a second card can be encoded as **service card KCS** as shown in Drawing B. The wireless telegram deviates from the normal card and can therefore be evaluated by the FVS Software accordingly. For example, it detects and visualises the attendance of a service employee.

We deliver blank white cards encoded as KCG or KCS. Cards supplied printed can be provided by us with coding slits at the full price of the KCG or KCS.

Mounting

Secure the mounting plate by screwing or bonding. Engage the frame with the hook-in recesses at top with the attachment frame and snap in the transmitter module with the mark 0 pointing up. Insert the assembled card guide in the hook-in recesses of the frame and screw tight in the bottom of the mounting plate using the supplied screw.

We recommend sheet metal countersink screws 2.9x25 mm, DIN 7982 C, for screw connections. Both with rawl plugs 5x25 mm and with 55 mm switch boxes. See Accessories on page Z-4. Worn card guides can be easily replaced without changing the transmitter module.

Fitting actuators

The wireless timers for card switches FZK12-12V DC, FZK61NP-230V and FZK70-230V were specially developed to activate the wireless card switches FKF and FKC. A release delay and a response delay are adjustable on this 16A switching relay.

To switch higher loads than specified in the technical data, the actuator must switch a contactor. In this case, do not activate the zero cross contactor at the FZK12-12 V DC.

A guestcard KCG and service card KCS is enclosed to every card switch FKC.

The wireless sensor can be taught-in into the following actuators and the wireless visualization and control software: FGM, FLC61, FMS12, FMZ61, FSR12, FSR61, FSR70, FZK12, FZK61, FZK70

KCG	Keycard white, unprinted, encoded as guest card	EAN 4010312906187	2,00 €/pc.
KCS	Keycard white, unprinted, encoded as service card	EAN 4010312906194	2,00 €/pc.
FKC-ws	Card switch with encoding white	EAN 4010312311622	45,60 €/pc.
FKC-rw	Card switch with encoding pure white	EAN 4010312311646	45,60 €/pc.
FKC-wg	Card switch with encoding pure white glossy	EAN 4010312311660	45,60 €/pc.

Pull Switch FZS



FZS-





Wireless pull switch 80x80 mm external dimensions, with internal frame dimensions 63x63mm, 22mm high. With grey and red handle.

When the handle is pulled and released, a wireless telegram is sent to the Eltako wireless network.

The scope of supply includes the completely assembled pull switch, an unprinted grey handle, a white printed red handle and two screws and rawl plugs.

First dismantle the fully assembled pull switch. To do this, remove the screw, unhook the cover and remove the intermediate frame together with the rocker and transmitter module by loosening the retaining bars at the top and bottom.

Fit the mounting plate by tightening the screws. Engage the frame together with the hook-in cut-outs at the top and the intermediate frame including the transmitter module and rocker with the rear ID 0 upwards. Insert the cover with the inserted cord into the hook-in cut-outs of the frame and screw tight into the retaining plate using the screw at the bottom. Shorten the cord to the required length, push it through the red or grey handle and secure it by a double knot.

Independent of position

The pull switch functions in any position, even when attached to the ceiling.

Matching actuators

The wireless pull switch transmits the same wireless telegrams when operated as a wireless pushbutton and can therefore be taught-in in actuators and the FVS software in the same way. If it will be taught-in in an actuator as 'central on' as an emergency call switch the emergency can only be received with another taught-in switch with 'central off'.

For display, we recommend use of a universal indicator FUA55LED with 10 LEDs.

The wireless sensor can be taught-in into the following actuators and the wireless visualization and control software: FGM, FLC61, FMS12, FMZ12, FMZ61, FSR12, FSR61, FSR70, FZK12, FZK61, FZK70

FZS-ws	Pull switch white	EAN 4010312313053	60,40 €/pc.
FZS-rw	Pull switch pure white	EAN 4010312313060	60,40 €/pc.

Compatible design frames 55x55mm internal dimension (not for wireless flat pushbutton FFT55Q)

Series	Material	Colour variants
Berker		
S.1	Plastic, matt and glossy polar white similar to RAL 9010 white similar to RAL 1013	White glossy, polar white glossy, polar white matt, red glossy, anthracite matt
B.7 Glas	Glass, high gloss polar white matt similar to RAL 9010	Polar white
B.3	Metal, aluminium neutral anodised	Aluminium/polar white, aluminium/anthracite
B.1	Plastic, matt: polar white similar to RAL 9010; anthracite similar to RAL 7021 Matt, painted: aluminium similar to RAL 9006; blue metallic similar to RAL 5010 orange metallic similar to RAL 2011 green metallic special colour red metallic special colour	Polar white/polar white, anthracite/anthracite, aluminium/aluminium, polar white/blue metallic, polar white/orange metallic, polar white/green metallic, polar white/red metallic, polar white/aluminium, polar white/anthracite, anthracite/blue metallic, anthracite/orange metallic, anthracite/green metallic, anthracite/red metallic, anthracite/aluminium, aluminium/blue metallic, aluminium/orange metallic, aluminium/green metallic, aluminium/red metallic, aluminium/polar white, aluminium/anthracite
Elso		
JOY	Plastic	Pearl white, pure white
RIVA with combined frame 55	Plastic, glass, aluminium	Pearl white, pure white, stainless steel effect, aluminium effect
SCALA with combined frame 55	Plastic	Pearl white, pure white, stainless steel effect, aluminium effect
FASHION with combined frame 55	Plastic Thermal unbreakable	Pearl white, pure white
GIRA		
Standard 55	Thermoplastic	Cream white glossy, pure white glossy, pure white silky matt
Event	Thermoplastic	Pure white, aluminium colour, anthracite, opaque orange, opaque red, opaque amber, opaque dark brown, opaque white, opaque mint, opaque blue
E2	Thermoplastic	Pure white glossy, pure white silky matt, aluminium colour, anthracite
Esprit	Glass	Glass white, glass mint, glass black
Esprit	Aluminium E 1 EV1: ground anodised matt; brass: high gloss galvanised gold-plated; chrome: high gloss; wenge wood: wood	Aluminium, brass, chrome, wenge wood
TX_44	Thermoplastic	Pure white, anthracite, aluminium colour
Hager Kallysto pur/stil/art	Plastic glossy, aluminium, glass	Brilliant white, silver, anthracite, cream; aluminium nature brush-finished, aluminium anthracite brush-finished; glass white, glass mint, glass anthracite
Jung		
A 500	Thermoplastic, thermosetting plastic	Alpine white, aluminium
AS 500 A plus	Thermoplastic, thermosetting plastic Thermoplastic, thermosetting plastic, metal	White, alpine white White, alpine white, aluminium, anthracite-aluminium, blue-aluminium, sun yellow-aluminium, aluminium-alpine white, anthracite-alpine white, blue-alpine white, sun yellow-alpine white, bright chrome-aluminium, bright chrome-alpine white
A creation	Thermosetting plastic, glass	Thermosetting plastic: alpine white, aluminium, black Glass: black, red, alpine white, bluegrey, matt white, silver-coated
Merten		
M-SMART	Thermoplastic, thermosetting plastic	Thermoplastic brilliant: white glossy, polar white glossy, active white glossy; Thermoplastic noble matt: white, polar white Thermosetting plastic highly scratchproof: white, polar white
M-ARC	Thermoplastic, noble matt	White, polar white, sand, night blue, anthracite, aluminium
M-PLAN	Thermoplastic	Thermoplastic brilliant: white glossy, polar white glossy, active white glossy; Thermoplastic noble matt: white, polar white, anthracite, aluminium
M-PLAN	Safety glass 6 mm	Brilliant white, onyx black, diamond silver, sapphire blue, ruby red, mahogany brown
ATELIER-M	Thermoplastic	White, polar white, active white

¹⁾ Not all colour variants can be supplied in Eltako design. Even same colour terms can slightly differ from each other.

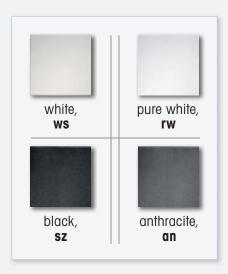
Eltako – The Wireless Building Active Wireless Sensors and Transmitter Modules





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Eltako – The Wireless Building Our colour range for wireless sensors





Outdoor sensors are only available in pure white, anthracite, black and silver grey. Indoor sensors FBH63AP and FIH63AP are not available in glossy.

Wireless Transmitter Modules FSM12 and F8S12

-A2

+A1



FSM12-UC









Wireless 2-fold transmitter module. With internal antenna. No standby loss.

Modular device for DIN-EN 60715 TH35 rail mounting. 1 module = 18 mm wide, 58 mm deep. The wireless transmitter module FSM12-UC has two channels and, like a wireless pushbutton, it can transmit wireless telegrams into the Eltako wireless building. A1 initiates a wireless telegram like 'press rocker above' of a wireless pushbutton with one rocker and A3 like 'press rocker below'. The telegram on opening the two control contacts is identical like 'release wireless pushbutton'. Severel wireless transmitter modules must not be switched at the same time.

If the terminals A1 and A3 are connected with a bridge, the wireless telegram is transmitted from A3, as long as the conrol voltage is applied, e.g. for central commands with priority. The universal control voltage processes control commands of 8 to 253 V AC or 10 to 230 V DC with periods lasting min. 0.2 seconds. Max. parallel capacitance (approx. length) of control lead at 230 V $0.06\,\mu F$. This corresponds to a length of approx. 200 meters.

No permanent power supply required, therefore no standby losses.

FSM12-UC

Wireless transmitter module

EAN 4010312300886

51,30 €/pc.

F8S12-12V DC







The enclosed small antenna can be replaced with a wireless antenna FA250 with magnetic base and cable.

Wireless 8-fold transmitter module, 8 control inputs for universal control voltage. With replaceable transmit antenna. If required, a wireless antenna FA250 can be connected. Only 0.5 watt standby loss.

Modular device for DIN-EN 60715 TH35 rail mounting. 2 modules = 36 mm wide, 58 mm deep. The wireless transmitter module F8S12-UC has eight channels and, like wireless pushbuttons, it can transmit local and central control signals into the Eltako wireless network.

4 control inputs may be connected to different potentials since they are electrically isolated. Control voltage 8 to $253\,\mathrm{V}$ AC or 10 to $230\,\mathrm{V}$ DC.

A 12 V DC voltage is supplied from a switching power supply unit FSNT12-12 V/12 W which has a width of only 1 module.

If two pushbuttons are defined as direction switch, the two pushbuttons must be taught-in as direction switches in an actuator. Control inputs are then defined in pairs for the direction 'ON', 'central ON', 'UP' and 'BRIGHTER' and control inputs 'OFF', 'central OFF', 'DOWN' and 'DARKER': A1/A3, A4/A5, E1/E3, E4/E5.

The LED flashes once when a wireless signal is transmitted.

Control current at 8/12/24 V AC/DC: 2.5/4/9 mA. Control current at 230 V AC/DC (<5s): 5 (100) mA.

F8S12-12V DC

Wireless 8-fold transmitter module

EAN 4010312302286

74,60 €/pc.

Wireless Outdoor Transmitter Module FASM60 Wireless Transmitter Module FSM61

Typical connection

FASM60-UC





Wireless outdoor transmitter module 2 channels. LxWxH: 60x46x30 mm. With internal antenna. No standby loss.

The wireless transmitter module FASM60-UC has two channels and can transmit wireless pushbutton telegrams to the Eltako building wireless system. Al initiates a wireless telegram, such as 'Press top rocker' for a wireless pushbutton with one rocker and A3 such as 'Press bottom rocker'. The telegram on opening the two control contacts is identical to 'Release wireless pushbutton'.

Severel wireless transmitter modules must not be switched at the same time.

There is a screw joint M12 at the bottom for the waterproof connection IP54. Connection to a 5-fold inside terminal for the control input

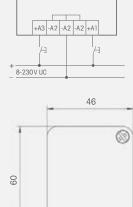
+A1/-A2 and +A3/-A2. Loosen the 2 screws on the front and remove lid.

If the terminals A1 and A3 are connected with a bridge, the wireless telegram is transmitted once per minute by A3, provided the control voltage is applied, e.g. for central commands with priority.

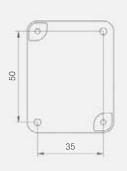
The universal control voltage processes control commands of 8 to 253 V AC or 10 to 230 V DC with periods lasting min. 0.2 seconds.

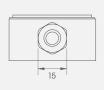
Max. parallel capacitance of the single control leads (separately installed) at 230V 3 nF, this corresponds to a length of approx. 10 meters. Parallel control leads (jointly installed) at 230V 0.5 nF, approx. 2 meters. Max. parallel capacitance (approx. length) of control lead at 12-24 V UC 0.03 µF, this corresponds to a length of approx. 100 meters.

No permanent power supply required, therefore no standby losses.









FASM60-UC

Outdoor transmitter module 2 channels

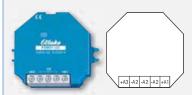
EAN 4010312311998

57,40 €/pc.

FSM61-UC







Wireless 2-fold transmitter module. With internal antenna, No standby loss,

For installation. 45 mm long, 55 mm wide, 18 mm deep.

The wireless transmitter module FSM61-UC has two channels and can transmit wireless pushbutton telegrams to the Eltako building wireless system. A1 initiates a wireless telegram, such as 'Press top rocker' for a wireless pushbutton with one rocker and A3 such as 'Press bottom rocker'. The telegram on opening the two control contacts is identical to 'Release wireless pushbutton'. Severel wireless transmitter modules must not be switched at the same time.

If the terminals A1 and A3 are connected with a bridge, the wireless telegram is transmitted once per minute by A3, provided the control voltage is applied, e.g. for central commands with priority. The universal control voltage processes control commands of 8 to 253 V AC or 10 to 230 V DC with periods lasting min. 0.2 seconds. Max. parallel capacitance (approx. length) of control lead at 230 V 0.5 nF. This correspond to a length of approx. 2 meters.

No permanent power supply required, therefore no standby losses.

FSM61-UC Wireless transmitter module EAN 4010312300152 49,60 €/pc.

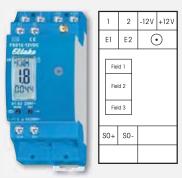
Wireless Energy Meter Transmitter Module FSS12



FSS12-12 V DC

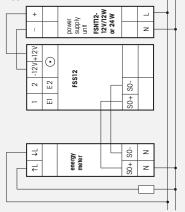
min ()

Smart Metering see chapter 7



The enclosed small antenna can be replaced with a wireless antenna FA250 with magnetic base and cable.

Typical connection



Wireless energy meter transmitter module for connection to S0 interface of the Eltako single-phase energy meter and three-phase energy meter.

Only 0.5 watt standby loss. With load shedding relay 1 NO contact potential free 4 A/250 V. With exchangeable antenna. If required, a wireless antenna FA250 can be connected.

Modular device for DIN-EN 60715 TH35 rail mounting. 2 modules = $36\,\mathrm{mm}$ wide, $58\,\mathrm{mm}$ deep. The energy meter transmitter module FSS12 evaluates the signals from the energy meter S0 interface and transmits wireless telegrams containing consumption and meter reading to the Eltako wireless network for evaluation on a PC using the Visualisation and Control Software FVS-Home and FVS-Energy. On three-phase energy meters, the data sent includes normal rate (HT) or off-peak (NT) energy tariff data, provided the E1/E2 terminals on the three-phase energy meter are connected to E1/E2 on the FSS12.

FVS-Energy and FVS-Home support up to 100 transmitter modules and FVS-Professional up to 250 transmitter modules.

The 12 V DC supply voltage of the complete RS485 bus is mainly powered at 12 W or 24 W by a switch mode power supply unit FSNT12-12 V DC that is only 1 or 2 pitch units wide. If the relay of the FSS12 is switched on, a power of 0.6 watts is required.

The setting and display screen is subdivided into 3 fields:

Field 1

The normal display is the unit of the meter reading currently displayed in Field 3. This alternates every 4 seconds with either kilowatt hours kWh (KWH in display) or megawatt hours MWh (MWH in display). The display in Field 1 is supplemented by a + sign after the reading to indicate that the off-peak tariff rate is applied to E1/E2.

Field 2:

Instantaneous values of energy consumption (active power) in watt (W) or kilowatt (kW). The left-pointing arrow in Field 1 indicates an automatic switchover from 0 to 99 W to 0.1 to 65 kW.

Field 3:

The meter reading is the normal display. Every 4 seconds the display alternates between 3 whole numbers and 1 decimal point (from 0.1 to 999.9 kWh) and 1 or max. 3 whole numbers (from 0 to 999 MWh).

Press the left button MODE to access setting mode. **Press the right button SET** to browse through the setting options, enter or edit settings as required and finally confirm by pressing MODE.

- HT flashes to indicate normal rate meter reading. Confirm by pressing MODE again and MWH flashes. SET changes the meter reading from 0 to 999 in Field 3. Press SET briefly to increment by 1; hold down to increment rapidly. Release and press again to change direction. Confirm by pressing MODE even if nothing was entered.
- 2. KWH flashes and SET changes the meter reading from 0.1 to 999.9 in Field 3, as before with MWH. Also confirm the correct entry by pressing MODE.
- 3. NT flashes and the off-peak meter reading may be displayed as described under HT above.
- 4. SO flashes and **the number of SO pulses per kWh on the meter** is entered in Field 3. This is specified on the meter sticker. 0010, 0100, 0800, 1000 or 2000 can be set by pressing SET. Press MODE to confirm your entry.
- 5. LRN flashes and after confirming by pressing MODE, a wireless teach-in telegram is transmitted by pressing SET. If a smart metering display is already installed, it is used to teach-in the transmitter ID, provided the receiver was set to LRN shortly before. To transmit further wireless teach-in telegrams, confirm the flashing LRN again by pressing MODE and transmit by pressing SET.
- 6. PSW flashes and after confirming by pressing MODE, press SET to set the **power threshold** from 0 to 60kW for the load shedding relay NO contact and a corresponding wireless telegram. The left pointing arrow in Field 1 indicates kW. Confirm by pressing MODE. In the setting 0.0, the relay contact closes after switching over from normal rate HT to off-peak NT. At the same time, a wireless telegram EIN (ON) is transmitted. When the device is switched over from NT to HT, AUS (OFF) is transmitted and the relay contact opens. With any other value from 1 to 60, the load shedding relay switches on when the set threshold value is overshot and switches off when the set threshold value is undershot at a hysteresis of 25%. At the same time, a wireless telegram EIN or AUS is transmitted. **Lock settings:** Press MODE and SET together briefly and lock the flashing LCK in Field 1 by pressing SET. To unlock, press MODE and SET together for 2 seconds and confirm the flashing UNL in Field 1 by pressing SET.

Wireless telegrams: Within 20 seconds, a power telegram is sent if the power changes by minimum 10%. A switchover from HT to NT is transmitted immediately in the same way as a meter reading change. A full telegram comprising meter reading HT, meter reading NT and power is transmitted 20 seconds after the power supply is switched on and then every 10 minutes. The LED lights up briefly when a telegram is transmitted.

The power display in Field 2 depends on the number of SO pulses per kWh of the meter. The minimum load displayed is 14 watts at 2000 pulses per kWh, 28 watts at 1000 pulses/kWh, 35 watts at 800 pulses/kWh, 280 watts at 100 pulses/kWh and 2800 watts at 10 pulses/kWh.

FSS12-12V DC

Wireless energy meter transmitter module

EAN 4010312301944

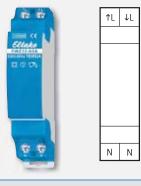
79,80 €/pc.

Wireless Single-phase Energy Meter Transmitter Modules FWZ12 and FWZ61

FWZ12-16 A Wireless single-phase energy meter transmitter module, **↑**L | ↓L maximum current 16 A. Only 0.5 watt standby loss. Modular device for DIN-EN 60715 TH35 rail mounting. 1 module = 18 mm wide, 58 mm deep. This single-phase energy meter measures active energy by means of the current between input and output and transmits the consumption and meter reading over the Eltako wireless network. Accuracy class B (1%). Evaluation on PC using the Visualisation and Control Software FVS or the energy consumption indicators FEA55LED or FEA55D. FVS-Energy and FVS-Home support up to N Ν 100 transmitter modules, FVS-Professional up to 250 transmitter modules. The internal power consumption of max. 0.5 watt active power is neither metered nor indicated. Like all meters without PTB or MID approval in Germany, not approved to levy electricity charges. 1 phase conductor with a max, current up to 16A can be connected. The inrush current is 20 mA. The consumption is saved to a non-volatile memory and is immediately available again after a power failure. Wireless telegrams: A telegram is transmitted within 20 seconds if the power status changes by min. 10 percent. A change in meter reading is transmitted immediately. A full telegram comprising meter reading and power status is transmitted every 10 minutes. When the power supply is switched on, a **teach-in telegram** is sent to teach in the associated energy consumption indicator. If the L input and the L output were interchanged when hooked up, a normal rate (HT)/offpeak (NT) switchover telegram is transmitted to indicate the hook-up error. Wireless single-phase energy meter EAN 4010312303184 FWZ12-16A 74,80 €/pc. transmitter module

FWZ12-65 A





Wireless single-phase energy meter transmitter module, maximum current 65 A. Only 0.5 watt standby loss.

Modular device for DIN-EN 60715 TH35 rail mounting. 1 module = 18 mm wide, 58 mm deep. This single-phase energy meter measures active energy by means of the current between input and output and transmits the consumption and meter reading over the Eltako wireless network. Accuracy class B (1%).

1 phase conductor with a max. current up to $65\,\mathrm{A}$ can be connected. The inrush current is $40\,\mathrm{mA}$. The consumption is saved to a non-volatile memory and is immediately available again after a power failure.

Evaluation, internal power consumption and wireless telegrams see FWZ12-16A.

FWZ12-65A

Wireless single-phase energy meter transmitter module 65 A

EAN 4010312311059

80,80 €/pc.

FWZ61-16 A







Wireless single-phase energy meter transmitter module, maximum current 16 A. Only 0.5 watt standby loss.

For installation. 45 mm long, 55 mm wide, 35 mm deep. Accuracy class B (1%). This single-phase energy meter measures active energy by means of the current between input and output and transmits the consumption and meter reading over the Eltako wireless network. Accuracy class B (1%).

1 phase conductor with a max. current up to 16A can be connected. The inrush current is 20 mA. The consumption is saved to a non-volatile memory and is immediately available again after a power failure.

Evaluation, internal power consumption and wireless telegrams see FWZ12-16A.

FWZ61-16A Wireless single-phase energy meter transmitter module

EAN 4010312302354

71,80 €/pc.

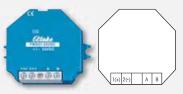
Wireless Weather Data Transmitter Module FWS61





FWS61-24V DC





Wireless weather data transmitter module for the seven weather items sent by the multisensor MS. Only 0.3 watt standby loss.

For installation. 45 mm long, 55 mm wide, 18 mm deep.

Power (24 V DC) is supplied by the switch mode power supply unit FSNT61-24 V/6 W (33 mm deep, $45\,\text{mm}$ long, $55\,\text{mm}$ wide). This switching power supply unit simultaneously supplys the multisensor MS including the heating of the rain sensor.

It is possible to use a deep UP box for the two devices.

This weather data transmitter module receives the seven momentary readings of the weather items: brightness (from three cardinal points), twilight, wind, rain and ambient temperature by cable J-Y (ST) Y 2x2x0,8 from the multisensor MS attached to the outside of the building. The readings are sent in the form of wireless telegrams over the Eltako wireless network with the priorities listed below. Evaluation is carried out by the FVS Wireless Visualisation and Control Software, the wireless multifunction sensor relay FMSR12 and the weather data display FWA55D (in preparation).

When the supply voltage is applied, a teach-in telegram is sent immediately and two status telegrams containing the momentary values are sent approx. 60 seconds later. At least every 10 minutes, but also:

Brightness values West, South and East each from 0 to 150 kLux if a change of minimum 10% occurs.

Twilight values from 0 to 999 Lux if a change of minimum 10% occurs.

Wind speeds from 0 to 70 m/s. From 4 m/s to 16 m/s, the momentary values are sent immediately 3 times at intervals of 1 second. After that, further value increases are sent within 20 seconds. Dropping wind speeds are sent progressively delayed by 20 seconds. **Rain** values at the start are sent immediately 3 times. After the rain stops, a telegram is sent within 20 seconds.

Temperature values from -40.0 °C to +80.0 °C are sent every 10 minutes together with all the other values in a status telegram. Evaluation is carried out by the FVS Wireless Visualisation and Control Software, the wireless multifunction sensor relay FMSR12 (in preparation) and the weather data display FWA55D (in preparation).

Monitoring multisensor function and line break. If the weather data message from multisensor MS is not sent for 5 seconds, the FWS61 immediately sends an alarm telegram which is repeated every 30 seconds. The alarm telegram can be taught-in as a switch telegram in an actuator to initiate further action as required. In addition, the two status telegrams containing the values brightness 0 Lux, twilight 0 Lux, temperature -40°C (frost), wind 70 m/s and rain are sent.

When a message is again detected from the multisensor MS, the alarm stops automatically.

FWS61-24V DC

Wireless weather data transmitter module

EAN 4010312301937

58,60 €/pc.

Multi sensor MS



The MS multi sensor sends the current weather details, including brightness (from three points of the compass), wind, rain and frost, to the multifunction sensor relay MSR12 connected in series once per second. A standard telephone wire is sufficient as connecting lead:

J-Y(ST)Y 2x2x 0,8 or equivalent. 100m line length is permitted.

Solid plastic housing, LxWxH = $118 \times 96 \times 77$ mm. Degree of protection IP44. Temperature at mounting location -30°C to +50°C.

A power supply unit FSNT61-24V/6W is required for the power supply, including heating of the rain sensor.

This simultaneously supplys the wireless weather data transmitter module FWS61-24 V DC.

Multi sensor MS EAN 4010312901731 **267,30 €/pc**.

FSNT61-24V/6W







Rated capacity 6 W. Standby loss 0.1 watt only.

Built-in device for installation. $45 \, \text{mm}$ long, $55 \, \text{mm}$ wide, $33 \, \text{mm}$ deep. Input voltage $230 \, \text{V}$ ($-20 \, \text{W}$ up to $+10 \, \text{W}$).

Efficiency 82%. Stabilised output voltage ±1%, low residual ripple.

Short-circuit proof.

Only required for the weather data
Overload protection and over-temperature switch-off by means of swichting off with automatic switching-on after fault clearance (autorecovery function).

FSNT61-24V/6W EAN 4010312313169 **30,00 €/pc.**



FRW-ws





Wireless smoke alarm Detectomat HDv 3000 OS, white, with wireless transmitter module inserted. Only 0.03 mW standby loss of the wireless transmitter module.

This battery-powered smoke alarm is a reliable device that generates an alarm in case of fire by visual detection based on the scattered light principle. Certified to EN 14604:2005 by the VdS (German independent testing institution). Alarm signal produces loud tone at intervals of 0.5 second. Operation indication every 40 seconds by flashing red LED. Fault and battery change display by short alert tone every 40 seconds.

In case of an alarm, the inserted wireless transmitter module transmits an NO contact telegram to the Eltako wireless network. This also takes place when the test button is pressed.

While the alarm sounds, the telegram is repeated every 10 seconds. Power consumption during an alarm is 23 µA from a fitted 9V lithium battery that powers the smoke alarm.

As soon as the alarm is cleared, 2 button NC contact telegrams are sent at an interval of 400ms. Every 20 minutes, a button NC contact telegram is sent as status telegram.

If the battery voltage is less than 7.2V, a battery status telegram is sent in addition. It can be taught into an actuator in the same way as the upper NO contact of a left double-switch rocker.

Several FRW-ws devices can be taught in the FZK actuators. By logic linking, alarm end is only signalled when all FRW-ws devices send no more alarms.

Battery life cycle of 9V lithium approx. 6 years, 9V alkaline approx. 3 years. A lithium battery is contained in the scope of supply.

Product highlights (manufacturer specifications)

- Early, reliable fire detection by automatic evaluation sensor system
- High operating reliability through sophisticated automatic self-test of entire electronics and separate power measurement
- Low battery is signalled visually and acoustically for 30 days
- The alarm is equipped with a soiling meter and display in compliance with UL standards
- Faults signalled by loud 85 dB warning tone in case of alarm
- Proof against false alarm due to powerful measuring chamber and consideration of temperature fluctuations (not a temperature smoke alarm)
- Light transmission bar (LED) acts as 'alarm mute test button'
- 'Alarm memory' function. This indicates which HDv 3000 OS smoke alarm was triggered in the past 24 hours
- Wireless-based alarm signal forwarding
- Approved by VdS (test centre) for fitting in habitable recreational vehicles
- Scope of supply includes smoke alarm, detector base, user manual, 9V lithium battery and 2 screws and rawl plugs for mounting the alarm

The wireless sensor can be taught-in into the following actuators and the wireless visualization and control software: FGM, FLC61, FMS12, FMZ61, FSR70, FSR70, FZK12, FZK61, FZK70

FRW-ws

Wireless smoke alarm, white

EAN 4010312312308

88,30 €/pc.

Wireless Sensor Motion/Brightness Sensor FBH63AP



FBH63AP-





Wireless motion/brightness sensor for individual fitting and mounting in $55x55\,\text{mm}$ or $63x63\,\text{mm}$ switch system.

The scope of supply includes a frame R, an intermediate frame ZR in the same colour and a mounting plate. The installation in an existing frame R1F, R2F or R3F for flat pushbuttons takes place with the intermediate frame ZR.

In as-delivered state the energy accumulators are empty and must be charged in bright day-light for about 5 hours or connected to a charger for about 10 minutes via the red/black 12 V DC connecting cable.

In normal ambient brightness (at least a daily average of 200 Lux), the energy of the integrated solar module is sufficient to power the FBH63. Then the 12 V DC connecting cable may be cut off if necessary. The sensor then requires no installation depth behind the mounting plate. It can be screwed or stuck to any flat surface. An adhesive film is supplied.

The power reserve stored in capacitors supplies the power requirement for the night.

If the ambient brightness is insufficient, power is supplied by the connecting cable from a switching power supply unit FSNT61-12 V/6 W fitted below in a switch box.

The complete module can be removed from the frame for screw mounting.

We recommend sheet metal countersink screws 2.9x25 mm, DIN 7982 C, for screw connections. Both with rawl plugs 5x25 mm and with 55 mm switch boxes. See Accessories on page Z-4.

To teach-in in an actuator in teach-in mode, hold the supplied blue magnet or any other magnet at hand below the point on the side panel of the sensor marked by ■. This sends a teach-in telegram.

The sensor measures from 0 to 2000 lux and transmits a message to the Eltako wireless network every 100 seconds if the brightness changes by min 10 lux. If the sensor detects motion, it sends a signal twice immediately. The switch-off signal is sent after the off delay which has a fixed setting of 1 minute. If there is no change, a status message is sent every 20 minutes.

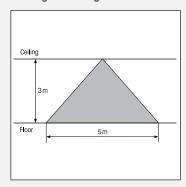
When teaching-in in actuators, the switching threshold is defined for switching the light on/off depending on the brightness. Additional variables are also taught-in on the FKR12.

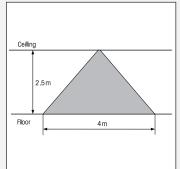
If a FBH63 detects motion, then the device is switched on and only when all the FBH63s taught-in in an actuator fail to detect motion for one minute, the actuator return delay starts if this was previously set.

Wall mounting

Distance m 2 4 6 8 10 -30° -15° 0° 15° 30°

Ceiling mounting





The wireless sensor can be taught-in into the following actuators and the wireless visualization and control software:

As motion sensor: FADS60, FGM, FHK12, FHK61, FKR12, FKR70, FLC61, FLS70, FSR12, FSR61, FSR70, FTN12, FTN61,

FUA55LED, FUD61, FZK12, FZK61, FZK70

As brightness sensor: FKR12, FKR70, FLC61, FSB12, FSB61, FSB70, FSR12, FSR61, FSR70, FUD61

FBH63AP-ws	Motion/brightness sensor white	EAN 4010312303566	129,50 €/pc.
FBH63AP-rw	Motion/brightness sensor pure white	EAN 4010312303573	129,50 €/pc.
FBH63AP-sz	Motion/brightness sensor black	EAN 4010312303580	129,50 €/pc.

Wireless Sensor Outdoor Motion/Brightness Sensor FABH63

FABH63-







Wireless outdoor motion/brightness sensor, LxWxH = 80x80x39mm, protection class IP54.

In as-delivered state the energy accumulators are empty and must be charged in bright daylight for about 5 hours.

In normal ambient brightness (at least a daily average of 200 Lux), the energy of the integrated solar module is sufficient to power the FABH63.

The power reserve stored in capacitors supplies the power requirement for the night.

The sensor requires no installation depth behind the mounting plate and can be screwed or stuck to any flat surface. An adhesive film is supplied.

We recommend sheet metal countersink screws $2.9x25\,\text{mm}$, DIN 7982 C, for screw connections. Both with rawl plugs $5x25\,\text{mm}$ and with $55\,\text{mm}$ switch boxes. See Accessories on page Z-4.

To teach-in in an actuator in teach-in mode, hold the supplied blue magnet or any other magnet at hand below the point on the side panel of the sensor marked by ■. This sends a teach-in telegram.

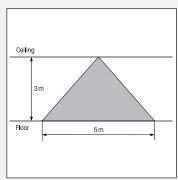
The sensor transmits a message to the Eltako wireless network every 100 seconds if the brightness changes by min 10 lux. If the sensor detects motion, it sends a signal twice immediately. The switch-off signal is sent after the off delay which has a fixed setting of 1 minute. If there is no change, a status message is sent every 20 minutes.

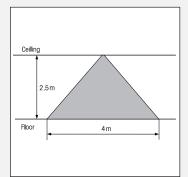
When teaching-in in actuators, the switching threshold is defined for switching the light on/off depending on the brightness. Additional variables are also taught-in on the FKR12.

If a FABH63 detects motion, then the device is switched on and only when all the FABH63s taught-in in an actuator fail to detect motion for one minute, the actuator return delay starts if this was previously set.

Wall mounting

Ceiling mounting





The wireless sensor can be taught-in into the following actuators and the wireless visualization and control software:

As motion sensor: FADS60, FGM, FHK12, FHK61, FKR12, FKR70, FLC61, FLS70, FSR12, FSR61, FSR70, FTN12, FTN61,

FUA55LED, FUD61, FZK12, FZK61, FZK70

As brightness sensor: FKR12, FKR70, FLC61, FSB12, FSB61, FSB70, FSR12, FSR61, FSR70, FUD61

FABH63-rw	Outdoor motion/brightness sensor pure white	EAN 4010312312056	133,70 €/pc.
FABH63-si	Outdoor motion/brightness sensor silver grey	EAN 4010312312094	133,70 €/pc.
FABH63-an	Outdoor motion/brightness sensor anthracite	EAN 4010312312087	133,70 €/pc.
FABH63-sz	Outdoor motion/brightness sensor black	EAN 4010312312063	133,70 €/pc.

Wireless Sensor Wireless Indoor Brightness Sensor FIH63AP





FIH63AP-





Wireless indoor brightness sensor for individual fitting and mounting in 55x55mm or 63x63mm switch system.

The electronic requires no intrinsic power supply, so there is no standby loss.

The scope of supply includes a frame R, an intermediate frame ZR in the same colour and a mounting plate. The installation in an existing frame R1F, R2F or R3F for flat pushbuttons takes place with the intermediate frame ZR.

The wireless indoor brightness sensor FIH63AP powered by a solar module covers the range from 0 to 30000 Lux. From approx. 300 Lux, it transmits a wireless telegram to the Eltako wireless network every time there is a brightness change of more than approx. 500 Lux within approx. 10 seconds. If the brightness does not change, a control signal is sent approx. every 100 seconds.

New actuators FSR and FSB can cover the range from 0 to approx. 30 Lux using the twilight switch function. A wireless telegram is sent about every 100 seconds within this range.

In as-delivered state the energy accumulators are empty and must be charged in bright daylight for about 5 hours or connected to a charger for about 10 minutes via the red/black 12 V DC connecting cable.

The power reserve stored in capacitors supplies the power requirement for the night.

In normal ambient brightness (at least a daily average of 200 Lux), the energy of the integrated solar module is sufficient to power the FIH63AP. Then the 12 V DC connecting cable may be cut off if necessary. The sensor then requires no installation depth behind the mounting plate. It can be screwed or stuck to any flat surface. An adhesive film is supplied.

We recommend sheet metal countersink screws 2.9x25 mm, DIN 7982 C, for screw connections. Both with rawl plugs 5x25 mm and with 55 mm switch boxes. See Accessories on page Z-4.

If the ambient brightness is insufficient, power is supplied by the connecting cable from a switching power supply unit FSNT61-12 V/6 W fitted below in a switch box.

The complete module can be removed from the frame for screw mounting.

To teach-in in an actuator in teach-in mode, hold the supplied blue magnet or any other magnet at hand below the point on the side panel of the sensor marked by ■. This sends a teach-in telegram.

When teaching-in in actuators, the switching threshold is defined for switching the light on/off depending on the brightness.

The wireless sensor can be taught-in into the following actuators and the wireless visualization and control software: FKR12, FKR70, FLC61, FSB12, FSB61, FSB70, FSR12, FSR61, FSR70, FUD61

FIH63AP-ws	Brightness sensor white	EAN 4010312311431	82,50 €/pc.
FIH63AP-rw	Brightness sensor pure white	EAN 4010312311783	82,50 €/pc.
FIH63AP-si	Brightness sensor silver grey	EAN 4010312311820	82,50 €/pc.
FIH63AP-an	Brightness sensor anthracite	EAN 4010312311813	82,50 €/pc.
FIH63AP-sz	Brightness sensor black	EAN 4010312311790	82,50 €/pc.
FIH63AP-al	Brightness sensor coated/aluminium paint	EAN 4010312311776	89,70 €/pc.

Wireless Sensor Outdoor Brightness Sensor FAH63

FAH63-







Wireless outdoor brightness sensor, LxWxH = 80x80x30 mm, Protection degree IP54.

The electronic requires no intrinsic power supply, so there is no standby loss.

The wireless outdoor brightness sensor FAH63 powered by a solar module covers the range from 0 to 30000 Lux. From approx. 300 Lux, it transmits a wireless telegram to the Eltako wireless network every time there is a brightness change of more than approx. 500 Lux within approx. 10 seconds. If the brightness does not change, a control signal is sent approx. every 100 seconds.

New actuators FSR and FSB can cover the range from 0 to approx. 30 Lux using the twilight switch function. A wireless telegram is sent about every 100 seconds within this range.

In as-delivered state the energy accumulators are empty and must therefore be charged in bright daylight for approx. 5 hours.

The power reserve stored in capacitors supplies the power requirement for the night. In normal ambient brightness (at least a daily average of 200 Lux), the energy of the integrated solar module is sufficient to power the FAH63. The sensor requires no installation depth behind the mounting plate and can be screwed or glued to any flat surface. An adhesive film is supplied. The complete module can be removed from the frame for screw mounting.

We recommend sheet metal countersink screws $2.9x25\,\text{mm}$, DIN 7982 C, for screw connections. Both with rawl plugs $5x25\,\text{mm}$ and with $55\,\text{mm}$ switch boxes. See Accessories on page Z-4.

To teach-in in an actuator in teach-in mode, hold the supplied blue magnet or any other magnet at hand below the point on the side panel of the sensor marked by ■. This sends a teach-in telegram.

When teaching-in in actuators, the switching threshold is defined for switching the light on/off depending on the brightness.

The wireless sensor can be taught-in into the following actuators and the wireless visualization and control software: FKR12, FKR70, FLC61, FSB12, FSB61, FSB70, FSR12, FSR61, FSR70, FUD61

FAH63-rw	Brightness sensor pure white	EAN 4010312312117	95,10 €/pc.
FAH63-si	Brightness sensor silver grey	EAN 4010312312148	95,10 €/pc.
FAH63-an	Brightness sensor anthracite	EAN 4010312312131	95,10 €/pc.
FAH63-sz	Brightness sensor black	EAN 4010312312124	102,30 €/pc.

Wireless Sensor Indoor Humidity Temperature Sensor FIFT63AP





FIFT63AP-





Wireless indoor humidity temperature sensor for individual fitting and mounting in 55x55 mm or 63x63 mm switch system.

The electronic requires no intrinsic power supply, so there is no standby loss.

The scope of supply includes a frame R, an intermediate frame ZR in the same colour and a mounting plate. The installation in an existing frame R1F, R2F or R3F for flat pushbuttons takes place with the intermediate frame ZR.

The power supplied wireless indoor humidity/temperature sensor FIFT63AP with a solar module measures constantly the relative humidity between 0 and 100% ($\pm 5\%$) and the temperature between -20 and +60°C (± 0.5 °C).

A wireless telegram will be sent to the Eltako wireless network in case of a humidity change of 2% and temperature change of 0.6°C. A control signal follows every 100 to 3000 seconds at stable values depending on the state of charge of the sensor.

In as-delivered state the energy accumulators are empty and must be charged in bright daylight for about 5 hours or connected to a charger for about 10 minutes via the red/black 12 V DC connecting cable.

The power reserve stored in capacitors supplies the power requirement for the night.

In normal ambient brightness (at least a daily average of 200 Lux), the energy of the integrated solar module is sufficient to power the FIFT63AP. Then the 12 V DC connecting cable may be cut off if necessary. The sensor then requires no installation depth behind the mounting plate. It can be screwed or stuck to any flat surface. An adhesive film is supplied.

We recommend sheet metal countersink screws 2.9x25 mm, DIN 7982 C, for screw connections. Both with rawl plugs 5x25 mm and with 55 mm switch boxes. See Accessories on page Z-4.

If the ambient brightness is insufficient, power is supplied by the connecting cable from a switching power supply unit FSNT61-12 V/6 W fitted below in a switch box.

The complete module can be removed from the frame for screw mounting.

To teach-in in an actuator in teach-in mode or the FVS Software, hold the supplied blue magnet or any other magnet at hand below the point on the side panel of the sensor marked by ■. This sends a teach-in telegram.

The wireless sensor can be taught-in into the following actuators and the wireless visualization and control software: F2L61, F2L70, F4H12, F4L12, FHK12, FHK61, FHK70

FIFT63AP-ws	Humidity temperature sensor white	EAN 4010312311448	108,40 €/pc.
FIFT63AP-rw	Humidity temperature sensor pure white	EAN 4010312311844	108,40 €/pc.
FIFT63AP-sz	Humidity temperature sensor black	EAN 4010312311851	108,40 €/pc.
FIFT63AP-al	Humidity temperature sensor coated/aluminium paint	EAN 4010312311868	115,60 €/pc.

FAH60







Wireless outdoor brightness sensor, 60x46mm, 30mm deep.

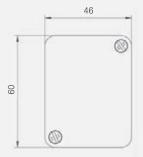
The electronic requires no intrinsic power supply, so there is no standby loss.

The wireless outdoor brightness sensor FAH60 powered by a solar module covers the range from 0 to 30000 Lux. From approx. 300 Lux, it transmits a wireless telegram to the Eltako wireless network every time there is a brightness change of more than approx. 500 Lux within approx. 10 seconds.

If the brightness does not change, a control signal is sent approx. every 100 seconds.

New actuators FSR and FSB can cover the range from 0 to approx. 30 Lux using the twilight switch function. A wireless telegram is sent about every 100 seconds within this range.

Starting in production week 28/2011: **To teach-in** in an actuator in teach-in mode, hold the supplied blue magnet or any other magnet at hand below the point on the side panel of the sensor marked by **■**. This sends a teach-in telegram.



Solar-powered energy accumulator:

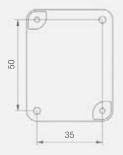
Before startup the energy accumulator must be charged.

The charge time is approx. 5 hours at 400 Lux. Keep the cover of the solar cell clean!

The protection class is IP54, the allowable ambient temperature is -20°C to +55°C.

For screw mounting or attachment with adhesive. The scope of supply comprises an adhesive foil. Shading elements may not cover brightness sensors. Keep the cover of the solar cells clean!





The wireless sensor can be taught-in into the following actuators and the wireless visualization and control software: FKR12, FKR70, FLC61, FSB12, FSB61, FSB70, FSR61, FSR70, FUD61

Wireless Sensor Outdoor Twilight Sensor with Actuator FADS60



FADS60









Wireless outdoor twilight sensor with actuator, 60x46 mm, 30mm deep.

1 NO contact not potential free 10A/250V AC, incandescent lamps 2000 Watt.

Bidirectional wireless and with repeater function. Only 0.7 watt standby loss.

This sensor/actuator combination can be used to switch on/off a garden lighting system, for example. In addition, wireless pushbuttons, hand-held wireless transmitters, FTK wireless window/door contacts and FABH63 wireless motion sensors can be taught in.

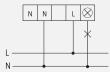
Every status change and incoming central control telegrams are confirmed by a wireless telegram. This wireless telegram can be taught into other actuators, the FVS-Software and FUA55 universal displays. Brightness parameters are not sent.

On the underside there is an M12 screw for the IP54 waterproof 230V mains connection. Connection to an internal 4-way terminal for L, $2 \times N$ and the contact output. To access the terminal, undo the two screws on the front and remove the cover.

Also, there are two rotary switches inside to teach-in sensors and switch on/off the repeater function if required. In operation, these rotary switches are used to set the switching threshold 'ON in darkness' and 'OFF in brightness'. The switching threshold and hysteresis are selectable up to 200 lux.

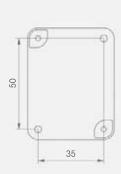
When the upper rotary switch is in ESV position, the twilight function is switched off and the actuator operates as an impulse switch. The lower rotary switch can be used to set a time delay.

Typical connection











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FAFT60







Wireless outdoor humidity temperature sensor, 60 x 46 mm, 30 mm deep.

The electronic requires no intrinsic power supply, so there is no standby loss.

The wireless outside humidity temperature sensor FAFT60 powered by a solar module continuously measures the relative air humidity between 0 and 100% (±5%) and temperature between -20 and +60°C (±0.5°C). Of course, it performs these functions not only outdoors but also indoors, provided the brightness is sufficient.

A wireless telegram is sent to the Eltako wireless network when humidity changes by 2% and in case of a temperature change of 0.6°C. If readings remain constant, a control message is sent every 100 to 3000 seconds, depending on the charge state of the sensor.

To teach-in in an actuator in teach-in mode or the FVS Software, hold the supplied blue magnet or any other magnet at hand below the point on the side panel of the sensor marked by . This sends a teach-in telegram.

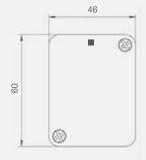


Before startup the energy accumulator must be charged.

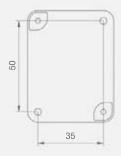
The charge time is approx. 5 hours at 400 Lux. Keep the cover of the solar cell clean!

The protection class is IP54, the allowable ambient temperature is -20°C to +55°C.

For screw mounting or attachment with adhesive. The scope of supply comprises an adhesive foil.







The wireless sensor can be taught-in into the following actuators and the wireless visualization and control software: F2L61, F2L70, F4H12, F4L12, FHK12, FHK61, FHK70

Wireless Sensor Clock Thermometer with display FUT55D



FUT55D-





Wireless clock thermometer with display for individual fitting and mounting in 55x55mm or 63x63mm switch system. Only 0.8 watt standby loss. With adjustable day and night reference temperatures. Preset ready to operate.

The scope of supply includes a frame R, an intermediate frame ZR in the same colour and a mounting plate. In addition, an intermediate frame ZRF in the same colour is supplied for installation in an existing frame R1F, R2F or R3F for flat pushbuttons.

Power supply 230 V.

A 20cm long black/blue connecting wire is routed to the rear.

Before screwing on, remove the frame and intermediate frame from the mounting plate. To do this, press out the catches on the mounting plate. Then screw on the mounting plate - with the catches at the top and bottom -, snap on the frame and the intermediate frame, and connect and snap on the clock thermostat.

We recommend sheet metal countersink screws 2.9x25mm, DIN 7982 C, for screw connections on 55mm switch boxes. See Accessories on page Z-4.

Up to 50 timer memory locations are freely assigned to the channels. With date and automatic summer/winter time changeover. Ca. 14 days power reserve without battery.

The wireless clock thermostat sends a message to the Eltako wireless network every 50 seconds when there is an actual temperature change of minimum 0.3°C. A change in reference temperature is sent immediately. If there is no change, a status report is sent every 10 minutes. Queries of a wireless small actuator FKS which are received approximately every 10 minutes will be answered immediately.

The timer is set using the MODE and SET buttons and the settings can be interlocked.

A complete switching programme is preset and can be very easily changed: day reference temperature 22°C Monday to Thursday from 6:00 to 22:00, Friday from 6:00 to 23:00, Saturday from 7:00 to 23:00 and Sunday from 7:00 to 22:00. The preset night reference temperature is 18°C.

Set language: Every time the power supply is applied, press SET within 10 seconds to set the language and press MODE to confirm. D = German GB = English. The **normal display** then appears: Weekday, time and actual temperature from 0°C to +40°C to one decimal point. If the settings are locked, the reference temperature STP can be displayed and changed here from +8°C to +40°C in steps of 0.5°C by pressing MODE followed by SET.

Rapid scroll: In the following settings, the numerals scroll rapidly when you press and hold down Enter. Release then press and hold down to change the scroll direction.

Set clock: Press MODE then at PRG (program) press SET to search for the **CLK function.** Press MODE to set. In H, press SET to select the hour and press MODE to confirm. In M proceed in the same way to set the minute.

Set date: Press MODE then at PRG press SET to search for the **DAT function.** Press MODE to select. At Y, press SET to select the year and press MODE to confirm. Proceed in the same way at M to set the month and at D to set the day. The last setting in the sequence is MO (weekday) blinking. Press SET to set it.

Summer/winter time changeover: Press MODE then at PRG press SET to search for the **SWT function** and press MODE to select. Now press SET to switch between ON and OFF. If you select ON, changeover is automatic.

Teaching-in actuators according to the Operating Manual. Different actuators as well as small actuators FKS (kieback&peter, type MD15-FtL-HE) can be taught-in. Teaching in window/door contacts FTK and Hoppe window handles can be taught-in for FKS in this clock thermostat FUT55D, otherwise in the actuators mentioned.

If window/door contacts FTK or Hoppe window handles were taught-in, the setting is lowered to frost protection temperature 8°C as long as one or several windows are open.

Lock settings: Briefly press MODE and SET together and at LCK, press SET to lock. This is displayed by an arrow next to the lock symbol.

Unlock settings: Press MODE and SET together for 2 seconds and at UNL press SET to unlock.

The wireless sensor can be taught-in into the following actuators and the wireless visualization and control software: F2L61, F2L70, F4H12, F4L12, FHK12, FHK70

FUT55D-ws	Clock thermometer with display white	EAN 4010312310700	98,90 €/pc.
FUT55D-rw	Clock thermometer with display pure white	EAN 4010312310922	98,90 €/pc.
FUT55D-sz	Clock thermometer with display black	EAN 4010312310946	98,90 €/pc.
FUT55D-wg*	Clock thermometer with display pure white glossy	EAN 4010312310953	98,90 €/pc.
FUT55D-al	Clock thermometer with display coated/aluminium paint	EAN 4010312310984	107,70 €/pc.

Wireless Sensor Temperature Controller FTR55H

FTR55H-





Wireless temperature controller with hand wheel for surface mounting and integration in the 55x55mm and 63x63mm switch system.

Own power supply from integrated solar cell.

The scope of supply includes a frame R and an intermediate frame ZR in the same colour, a mounting plate and an adhesive film. In addition, an intermediate frame ZRF in the same colour is supplied for installation in an existing frame R1F, R2F or R3F for flat pushbuttons.

In the as-delivered state, the energy accumulators are empty and therefore they must first be charged either in bright daylight for approx. 5 hours or using the red/black 12 V DC connecting cable for approx. 10 minutes.

The power reserve stored in capacitors supplies the power requirement for the night.

In normal ambient brightness (at least a daily average of 200 Lux) the energy of the integrated solar module is sufficient to power the FTR55H. The 12 V DC connecting cable can then be cut off if necessary. This means the sensor requires no installation depth behind the mounting plate. It can be screwed or affixed to any flat surface. An adhesive film is supplied.

We recommend sheet metal countersink screws 2.9x25 mm, DIN 7982 C, for screw connections. Both with rawl plugs 5x25 mm and with 55 mm switch boxes. See Accessories on page Z-4.

If the ambient brightness is insufficient, power is supplied by the connecting cable from a switch mode power supply unit FSNT61-12 V/6 W fitted below in a switch box.

To teach-in in an actuator in teach-in mode, hold the supplied blue magnet or any other magnet at hand below the point on the side panel of the sensor marked by **I**. This sends a teach-in telegram.

The temperature controller sends a message into the Eltako wireless network within 100 seconds when there is a change in the actual or reference temperature of min 0.3°C. If there is no change, a status report is sent every 20 minutes.

Measurement accuracy is approx. 1°C.

The **day reference temperature** that ranges from +12°C to +28°C is changed using the hand wheel

A **night reduction** can be activated by the slide switch. This makes the night reference temperature 4°C lower than the day reference temperature.

The **slide switch** is for function selection.

= normal mode (day).

0 = temperature control off; the actual temperature continues to be sent, however

The wireless sensor can be taught-in into the following actuators and the wireless visualization and control software: F2L61, F2L70, F4H12, F4L12, FHK12, FHK61, FHK70

FTR55H-ws	Temperature controller with hand wheel white	EAN 4010312311189	90,80 €/pc.
FTR55H-rw	Temperature controller with hand wheel pure white	EAN 4010312311929	90,80 €/pc.
FTR55H-sz	Temperature controller with hand wheel black	EAN 4010312311936	90,80 €/pc.
FTR55H-wg *	Temperature controller with hand wheel pure white glossy	EAN 4010312311943	90,80 €/pc.
FTR55H-al	Temperature controller with hand wheel coated/aluminium paint	EAN 4010312311981	99,60 €/pc.

Wireless Sensors Temperature Controller FTR55D



FTR55D-





Wireless temperature controller with display for surface mounting and integration in the $55x55\,\text{mm}$ and $63x63\,\text{mm}$ switch system. Own power supply from integrated solar cell.

The scope of supply includes a frame R, an intermediate frame ZR in the same colour, a mounting plate and an adhesive film. In addition, an intermediate frame ZRF in the same colour is supplied for installation in an existing frame R1F, R2F or R3F for flat pushbuttons.

In the as-delivered state, the energy accumulators are empty and therefore they must first be charged either in bright daylight for approx. 5 hours or using the red/black 12 V DC connecting cable for approx. 10 minutes.

The power reserve stored in capacitors supplies the power requirement for the night.

In normal ambient brightness (daily average of at least 200 Lux) the energy of the integrated solar module is sufficient to power the sensor. Then the 12 V DC connecting cable may be cut off if necessary. This means the sensor requires no installation depth behind the mounting plate. It can be screwed or affixed to any flat surface. An adhesive film is supplied.

We recommend sheet metal countersink screws 2.9x25 mm, DIN 7982 C, for screw connections. Both with rawl plugs 5x25 mm and with 55 mm switch boxes. See Accessories on page Z-4.

If the ambient brightness is insufficient, power is supplied by the connecting cable from a switch mode power supply unit FSNT61-12V/6W fitted below it in a switch box.

The complete module can be removed from the frame so that it can be screwed on.

The sensor sends a message every 100 seconds to the Eltako wireless network at an actual temperature change of minimum 0.3°C. The bistable display is updated.

A change in reference temperature is sent immediately. The display is updated. If there is no change, a status report is sent every 20 minutes.

Measurement accuracy is approx. 1°C.

The normal display consists of a large ambient temperature display ranging from 0°C to +40°C. Above the day reference temperature is displayed in small digits preceded by 'd' (= day).

Adjust the day reference temperature from +8°C to +40°C in steps of 0.5°C by pressing the ▲ and ▼ buttons. Several key operations are accumulated. The new reference temperature appears in the display in large digits after approx. 1 second. After a further approx. 4 seconds, the display returns to normal mode.

Night reduction can also be activated and adjusted by pressing the \triangle and \blacktriangledown keys. Activation is by pressing both keys simultaneously and briefly. The top of the display shows the night reference temperature in small digits preceded by 'n' (= night). The presetting is a value which is 4°C lower than the day reference temperature. Terminate the night reduction function by briefly pressing the two keys simultaneously.

The temperature reduction value can be changed in steps of 1°C by pressing the \blacktriangle and \blacktriangledown keys as long as the night reduction function is activated. Here too, several key operations are accumulated. The new temperature reduction value is shown in the display in large digits after approx. 1 second. After a further approx. 4 seconds, the display returns to night reduction mode. Terminate the night reduction function by briefly pressing the two keys simultaneously.

The wireless sensor can be taught-in into the following actuators and the wireless visualization and control software: F2L61, F2L70, F4H12, F4L12, FHK12, FHK70

FTR55D-ws	Temperature controller with display white	EAN 4010312302361	145,30 €/pc.
FTR55D-rw	Temperature controller with display pure white	EAN 4010312302385	145,30 €/pc.
FTR55D-sz	Temperature controller with display black	EAN 4010312302408	145,30 €/pc.
FTR55D-wg*	Temperature controller with display pure white glossy	EAN 4010312302415	145,30 €/pc.
FTR55D-al	Temperature controller with display coated/aluminium paint	EAN 4010312305393	154,10 €/pc.

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Wireless Sensor Temperature Sensor FTF55

FTF55-





Wireless temperature sensor for surface mounting and integration in the $55x55\,\text{mm}$ and $63x63\,\text{mm}$ switch system. Own power supply from integrated solar cells.

The scope of supply includes a frame R, an intermediate frame ZR in the same colour, a mounting plate and an adhesive film. In addition, an intermediate frame ZRF in the same colour is supplied for installation in an existing frame R1F, R2F or R3F for flat flat pushbuttons.

In the as-delivered state, the energy accumulators are empty and therefore they must first be charged either in bright daylight for approx. 5 hours or using the red/black 12 V DC connecting cable for approx. 10 minutes.

The power reserve stored in capacitors supplies the power requirement for the night.

In normal ambient brightness (daily average of at least 200 Lux) the energy of the integrated solar module is sufficient to power the sensor. Then the 12 V DC connecting cable may be cut off if necessary. This means the sensor requires no installation depth behind the mounting plate. It can be screwed or affixed to any flat surface. An adhesive film is supplied.

We recommend sheet metal countersink screws 2.9x25 mm, DIN 7982 C, for screw connections. Both with rawl plugs 5x25 mm and with 55 mm switch boxes. See Accessories on page Z-4.

If the ambient brightness is insufficient, power is supplied by the connecting cable from a switch mode power supply unit FSNT61-12 V/6W fitted below it in a switch box.

The complete module can be removed from the frame so that it can be screwed on.

The sensor sends a message every 100 seconds to the Eltako wireless network at an actual temperature change of minimum 0.3°C. The bistable display is updated. If there is no change, a status report is sent every 20 minutes.

Measurement accuracy is approx. 1°C.

The wireless sensor can be taught-in into the following actuators and the wireless visualization and control software: F2L61, F2L70, F4H12, F4L12, FHK61, FHK70

FTF55-ws	Temperature sensor white	EAN 4010312302521	92,90 €/pc.
FTF55-rw	Temperature sensor pure white	EAN 4010312302545	92,90 €/pc.
FTF55-sz	Temperature sensor black	EAN 4010312302569	92,90 €/pc.
FTF55-wg*	Temperature sensor pure white glossy	EAN 4010312302576	92,90 €/pc.
FTF55-al	Temperature sensor coated/aluminium paint	EAN 4010312305423	101,70 €/pc.

Wireless Sensor Timer FSU55D with display



FSU55D-





Wireless timer with display and with 8 channels for individual fitting and integration in the $55x55\,\text{mm}$ and $63x63\,\text{mm}$ switch system. From production week 39/11 with 'astro' function. Only 0.2 watt standby loss.

The scope of supply includes a frame R, an intermediate frame ZR in the same colour and a mounting plate. In addition, an intermediate frame ZRF in the same colour is supplied for installation in an existing frame R1F, R2F or R3F for flat pushbuttons.

Power supply 230 V. A 20 cm long black/blue connecting wire is routed to the rear.

Before screwing on, remove the frame and intermediate frame from the mounting plate. To do this, press out the catches on the mounting plate. Then screw on the mounting plate - with the catches at the top and bottom -, snap on the frame and the intermediate frame, and connect and snap on the timer.

We recommend sheet metal countersink screws 2.9x25mm, DIN 7982 C, for screw connections on 55mm switch boxes. See Accessories on page Z-4.

Up to 60 timer memory locations are freely assigned to the channels. With date and automatic summer/winter time changeover. Ca. 20 days power reserve without battery.

The timer is set using the MODE and SET buttons and the settings can be interlocked.

Set language: Every time the power supply is applied, press SET within 10 seconds to set the language and press MODE to confirm. D = German, GB = English, F = French, IT = Italian and ES = Spanish. The normal display then appears: weekday, time, day and month.

Rapid scroll: In the following settings, the numerals scroll rapidly when you press and hold down Enter. Release then press and hold down to change the scroll direction.

Set clock: Press MODE then at PRG (program) press SET to search for the **CLK function.** Press MODE to set. In H, press SET to select the hour and press MODE to confirm. In M proceed in the same way to set the minute.

Set date: Press MODE then at PRG press SET to search for the **DAT function.** Press MODE to select. At Y, press SET to select the year and press MODE to confirm. Proceed in the same way at M to set the month and at D to set the day. The last setting in the sequence is MO (weekday) blinking. Press SET to set it.

Set geographic position (if the astro function is required): Press MODE then press SET at PRG to search for the **POS function.** Select by pressing MODE. For LAT press SET to select the latitude and press MODE to confirm. Repeat this procedure for LON to select the longitude and press MODE to confirm. As the last setting in the sequence, GMT flashes. Here press SET to select the time zone and press MODE to confirm.

Summer/winter time changeover: Press MODE then at PRG press SET to search for the **SWT function** and press MODE to select. Now press SET to switch between ON and OFF. If you select ON, changeover is automatic.

Teach in channels in actuators: Press MODE then at PRG press SET to search for the

LRN function and press MODE to select. At CH press SET to select the channel and press MODE to confirm. Now press SET to switch from ON to OFF. If you press MODE to confirm ON, LRN+ flashes and the ON function is taught in a teachable actuator. The procedure is identical to teach-in OFF.

Switch random mode on/off: Press MODE then at PRG press SET to search for the **RND function** and press MODE to select. Press SET to set to ON (RND+) or OFF (RND) and press MODE to confirm. When random mode is switched on, all switch-on time points of all channels are shifted at random by up to 15 minutes. Switch-on times are switched earlier and switch-off times are switched later.

Lock settings: Briefly press MODE and SET together and at LCK, press SET to lock. This is displayed by an arrow next to the lock symbol.

Unlock settings: Press MODE and SET together for 2 seconds and at UNL press SET to unlock.

The wireless sensor can be taught-in into the following actuators and the wireless visualization and control software: all actuators except for FZK12, FZK61, FZK70, F4H12, F4L12 and FUT55D.

FSU55D-ws	Timer with display white	EAN 4010312303740	84,90 €/pc.
FSU55D-rw	Timer with display pure white	EAN 4010312303764	84,90 €/pc.
FSU55D-sz	Timer with display black	EAN 4010312303771	84,90 €/pc.
FSU55D-wg*	Timer with display pure white glossy	EAN 4010312303788	84,90 €/pc.
FSU55D-al	Timer with display coated/aluminium paint	EAN 4010312305454	93,70 €/pc.

Sensors Actuators	Pushbuttons and hand-held transmitters FT2S, FT4F FT4, FFT55Q, FMT55, FHS4 FHS6, FHS8 FHS12, FMH2 FMH4, FMH8	Transmitter modules FSM12 F8S12 FSM61 FTS12EM FSU55D FSU12	Card switch, pull switch and smoke alarm FKF FKC FZS FRW	Window/ door contact FTK	Hoppe window handle FHF	Motion sensors FBH63 FABH63	Brightness sensors FABH63 FAH60 FAH63 FBH63 FIH63AP	Temperature controller/ sensors FTR55H FTR55D FTF55 FUT55D FAFT60 FIFT63	Control from a PC using FVS Software
FFR12-12 V DC	Х	Х							Х
FHK12-12 V DC	X			Х	Х	Х	Х	Х	X
FKR12/1-10 V	Х	Х				Х	Х		Х
FKR12UD-12 V DC	Х	Х				Х	Х		X
FLS12/1-10V	Х	Х							X ²⁾
FLS12UD-12 V DC	Х	Х							X ²⁾
FMS12-12 V DC	Х	X	Х						X
FMZ12-12 V DC	X	X	X	X	X				X
FSA12-12 V DC	X	X	X	X	X	X			X
FSB12-12 V DC	X	X		Х	X		X		X ²⁾
FSG12/1-10 V	X	X							X
FSR12-12 V DC	X	X	X	X	X	X	X		X
FSR12-4x-12 V DC	X	X	X	X	X	X	X		X
FTN12-12 V DC	X	X		Х		X			X
FUD12/800 W	X	X							X ²⁾
FUD12NPN-12 V DC	Х	X							X ²⁾
FZK12-12 V DC			X	Х	X	X			
F4H12-12 V DC				Х	X			X 1)	
F4L12-12 V DC	X	X		X	X			Х	Х
FADS60	Х	Х		Х	χ	Х			Х
FFR61-230 V	Х	Х							X
FGM	Х	Х	Х	Х	Х	Х			Х
FHK61-230 V	Х			Х	Х	Х	Х	Х	Х
FHK61/8-24 V UC	Х			Х	Х	Х	Х	Х	Х
FHK70-230 V	Х			Х	X		Х	X	Х
FKR70/1-10 V	Х	Х				X	Х		Х
FKR70UD-230V	X	Х				Х	X		Х
FLC61NP-230 V	Х	Х	Х	Х	Х	Х	Х		Х
FLS70/1-10 V	Х	Х				Х			X ²⁾
FLS70UD-230 V	Х	X				Х			X ²⁾
FMS61NP-230V	Χ	X							X
FMZ61-230 V	X	X	X	X	X				X
FSB61NP-230 V	X	X		Х	X		X		X ²⁾
FSB70-230 V	Х	X		Х	X		Х		X ²⁾
FSG70/1-10 V	X	X							Х
FSR61-230 V	X	Х	X	X	X	Х	X		Х
FSR61/8-24 V UC	X	X	X	X	X	Х	X		X
FSR61NP-230V	X	Х	X	X	Х	Х	X		Х
FSR70-230 V	X	X	X	X	X		Х		Х
FSR70S-230 V	X	X	Х			Х	X		Х
FTN61NP-230V	Х	X		Х		Х			Х
FUA55LED	X	Х		Х	X	X			X
FUD61NP-230 V	X	X				Х	Х		X
FUD61NPN-230 V	X	Х				Х	Х		X ²⁾
FUD70-230 V	Х	X							X 2)
FUD70S-230 V	X	X							X ²⁾
FUT55D				X	X				
FZK61NP-230 V			X	Х	X	X			
FZK70-230 V			X	X	X	Х			
F2L61-230V	Х	X		X	X			X	Х
F2L70-230 V	X	X		X	X			Х	Х

Wireless Antenna and Pushbutton Modules, Display Timer, Bus Connectors and Powernet Devices for the RS485 Bus



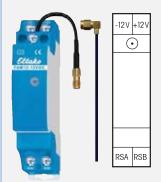


Wireless antenna modules FAM12	3-0
Pushbutton input module FTS12EM	3-1
RS485 bus display Timer FSU12D	3-2†
RS485 bus connector FBV12	3-3
Wireless antenna module for PC FAM-USB	3-4
Wireless Powernet connector FPV12	3-5
Wireless Powernet meter connector FPZ12	3-6
Wireless Powernet repeater FPR12	3-7
Wireless Powernet phase coupler FPP12	3-7

FAM12-12V DC







The enclosed small antenna can be replaced with a wireless antenna FA250 or FA200 with magnetic base and cable.

Wireless antenna module for the Eltako RS485 bus with exchangeable antenna. Only 0.7 watt standby loss. If required, a wireless antenna FA250 or FA200 can be connected.

Modular device for DIN-EN 60715 TH35 rail mounting. 1 module = 18 mm wide, 58 mm deep.

The wireless antenna module FAM12 receives and tests all signals from wireless transmitters and repeaters within its receiving range. These are transmitted via an RS485 interface to RS485 bus switching actuators connected in series:

Up to 128 actuators can be connected to the Eltako RS485 bus (terminals RSA/RSB).

The upper LED shows all perceived wireless commands in the receiving range by short flickering.

If the lines of the RS485 bus are longer than 2 m, a terminal resistor of approx. 220 ohms must be connected **to the last actuator** under the terminal RSA/RSB.

FAM12-12V DC

Wireless antenna module

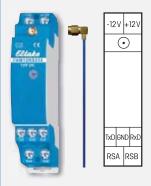
EAN 4010312300879

62,30 €/pc.

FAM12RS232



RS485



The enclosed small antenna can be replaced with a wireless antenna FA250 or FA200 with magnetic base and cable.

Wireless antenna module for the Eltako RS485 bus RS232-Gateway with exchangeable antenna. Only 0.4 watt standby loss. If required, a wireless antenna FA250 or FA200 can be connected.

Modular device for DIN-EN 60715 TH35 rail mounting. 1 module = 18 mm wide, 58 mm deep.

The wireless antenna module FAM12RS232 receives and tests all signals from wireless transmitters and repeaters within its receiving range. These are transmitted via an RS485 interface to RS485 bus switching actuators connected in series:

Up to 128 actuators can be connected to the Eltako RS485 bus (terminals RSA/RSB).

The upper LED shows all perceived wireless commands in the receiving range by short flickering.

If the lines of the RS485 bus are longer than 2m, a terminal resistor of approx. 220 ohms must be connected **to the last actuator** under the terminal RSA/RSB.

Via the terminals TxD, GND and RxD RS232 signals can be feeded into the Eltako bus RS485 as well as wireless signals can be evaluated through the RS232 interface.

FAM12RS232

Wireless antenna module with RS232

EAN 4010312301609

77.80 €/pc.

FA250 and FA200



Wireless antennas with magnetic base

The small enclosed wireless antenna of the wireless antenna modules FAM12 can be replaced by a larger antenna to feed wireless signals into metallic switching cabinets. It is mounted on the magnetic base externally and the cable is routed inside the cabinet to the FAM12. Description and extension cables see page Z-3.

FA250	Wireless antenna with 250cm cable	EAN 4010312300244	19,90 €/pc.
FA200	High-performance receive antenna with 200 cm cable	EAN 4010312303306	64,70 €/pc.

Recommended retail prices excluding VAT.

Pushbutton Input Module FTS12EM



FTS12EM-UC











Pushbutton input module for the Eltako RS485 bus, 10 control inputs for universal control voltage. Only 0.3 watt standby loss.

Modular device for DIN-EN 60715 TH35 railmounting.

2 modules = 36 mm wide, 58 mm deep.

Connection to the Eltako RS485 bus, terminals RSA/RSB.

5 control inputs may be connected to different potentials since they are electrically isolated. Control voltage 8 to 253 V AC or 10 to 230 V DC.

A 12V DC voltage is supplied from a switching power supply unit FSNT12-12V/12W which has a width of only 1 module.

One FAM12 wireless antenna module and up to 10 FTS12EM pushbutton input modules and timers FSU12D per FAM12 may be switched in series to the RS485 bus. The wireless antenna module FAM12 must then be connected upstream of the FTS12EM.

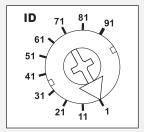
The rotary switch assigns a separate ID range to a maximum of 10 FTS12EM's. 1 = ID 1-10; 11 = ID 11-20; 21 = ID 21-30 etc.

An ID from the above listed range is assigned to each pushbutton during teach-in as specified in the user's manual for each actuator.

If two pushbuttons are defined as direction switch, the two pushbuttons must be taught-in as direction switches in an actuator. Control inputs are then defined in pairs for the direction 'ON', 'central ON', 'UP' and 'BRIGHTER' and control inputs 'OFF', 'central OFF', 'DOWN' and 'DARKER': A1/A3, A4/A5, A6/E6, E1/E3 and E4/E5.

A1, A6 and E1 ≜ wireless pushbutton right upper part A3, E3 and E6 ≜ wireless pushbutton right bottom part A4 and E4 ≜ wireless pushbutton left upper part A5 and E5 ≜ wireless pushbutton left bottom part

ID rotary switch



Standard setting ex works.

From production week 30/2011 2 pushbuttons for light scenes with 4 light scenes each can be taught-in in the Eltako wireless system with this pushbutton input module.

The LED under the rotary switch flashes once if a connected pushbutton is operated.

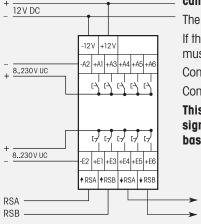
If the lines of the RS485 bus are longer than 2 m, a terminal resistor of approx. 220 ohms must be connected **to the last actuator** under the terminal RSA/RSB.

Control current at 8/12/24 V AC/DC: 2.5/4/9 mA.

Control current at 230 V AC/DC (< 5s): 5(100) mA.

This pushbutton is not only used as a complement to the Eltako Wireless system to feed signals into the RS485 bus in addition to the wireless antenna module, but it is also the basic device for the remote switch system FTS12.

Typical connection



Possibly by a wireless antenna module FAM12

To other FTS12EMs or FSU12Ds and then to the RS485 bus actuators

FTS12EM-UC Pushbutton input module EAN 4010312301203 **55,30 €/pc.**

RS485 Bus Display Timer FSU12D

FSU12D-12 V DC









Display timer with 8 channels for the Eltako RS485 bus. From production week 37/11 with 'astro' function. Only 0.3 watt standby loss.

Modular device for DIN-EN 60715 TH35 rail mounting. 1 module = 18 mm wide, 58 mm deep.

Connection to the Eltako RS485 bus, terminals RSA and RSB.

A 12 V DC voltage is supplied from a switching power supply unit FSNT12-12 V/12 W which has a width of only 1 module.

One FAM12 wireless antenna module and up to 10 FTS12EM pushbutton input modules and timers FSU12D per FAM12 may be switched in series to the RS485 bus. The wireless antenna module FAM12 has to be connected before the FSU12D.

If the lines of the RS485 bus are longer than 2m, a terminal resistor of approx. 220 ohms must be connected **to the last actuator** under the terminal RSA/RSB.

Up to 60 timer memory locations are freely assigned to the channels. With date and automatic summer/winter time changeover. Ca. 20 days power reserve without battery.

Each memory location can be assigned with the astro function (automatic switching after sunrise or sundown) or the time function. The astro switch on/off time can be changed by +/- 2 hours.

The timer is set using the MODE and SET buttons and the settings can be interlocked.

Set language: Every time the power supply is applied, press SET within 10 seconds to set the language and press MODE to confirm. D = German, GB = English, F = French, IT = Italian and ES = Spanish. The normal display then appears: weekday, time, day and month.

Rapid scroll: In the following settings, the numerals scroll rapidly when you press and hold down Enter. Release then press and hold down to change the scroll direction.

Set clock: Press MODE then at PRG (program) press SET to search for the **CLK function.** Press MODE to set. In H, press SET to select the hour and press MODE to confirm. In M proceed in the same way to set the minute.

Set date: Press MODE then at PRG press SET to search for the **DAT function.** Press MODE to select. At Y, press SET to select the year and press MODE to confirm. Proceed in the same way at M to set the month and at D to set the day. The last setting in the sequence is MO (weekday) blinking. Press SET to set it.

Set geographic position (if the astro function is required): Press MODE then press SET at PRG to search for the **POS function.** Select by pressing MODE. For LAT press SET to select the latitude and press MODE to confirm. Repeat this procedure for LON to select the longitude and press MODE to confirm. As the last setting in the sequence, GMT flashes. Here press SET to select the time zone and press MODE to confirm.

Summer/winter time changeover: Press MODE then at PRG press SET to search for the **SWT function** and press MODE to select. Now press SET to switch between ON and OFF. If you select ON, changeover is automatic.

Identification number: Up to 10 timers can be identified in the RS485 bus. 0 is saved at the factory. Press MODE then at PRG press SET to search for the **ID function**. Press MODE to select, then press SET to search for a number and press MODE to select.

Teach in channels in actuators: Press MODE then at PRG press SET to search for the **LRN function** and press MODE to select. At CH press SET to select the channel and press MODE to confirm. Now press SET to switch from ON to OFF. If you press MODE to confirm ON, LRN+ flashes and the ON function is taught in a teachable actuator. The procedure is identical to teach-in OFF.

Switch random mode on/off: Press MODE then at PRG press SET to search for the **RND function** and press MODE to select. Press SET to set to ON (RND+) or OFF (RND) and press MODE to confirm. When random mode is switched on, all switch-on time points of all channels are shifted at random by up to 15 minutes. Switch-on times are switched earlier and switch-off times are switched later.

Lock settings: Briefly press MODE and SET together and at LCK, press SET to lock. This is displayed by an arrow next to the lock symbol.

Unlock settings: Press MODE and SET together for 2 seconds and at UNL press SET to unlock.

FSU12D-12V DC Display timer EAN 4010312302835 **55,70 €/pc.**



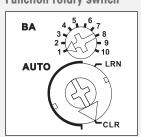
FBV12-12 V DC







Function rotary switch



Bus connector for the Eltako RS485 bus. Only 0.1 watt standby loss.

Modular device for DIN-EN 60715 TH35 rail mounting. 1 module = 18 mm wide, 58 mm deep. The bus connector transmits up to 35 selected and taught-in signals from an Eltako RS485 bus to another Eltako RS485 bus. In this way, signals can be transmitted over large distances with a 2-wire bus to avoid using a repeater to transmit more remote sensing signals to their associated switching actuators, for example for central control commands spanning several floors.

The bus connector must be installed behind its FAM12 according to the connection example in bus 2 because the bus 2 bus lines RSA and RSB must be looped through the bus connector.

The sensors, whose telegrams are to be transmitted from bus 1 to bus 2 must first be taught-in in the bus connector before they are additionally taught-in in the corresponding actuators in bus 2, according to their operation manuals. In operating mode 4-6 FSU12D and FTS12EM only have to be taught-in in the actuators of bus 2.

The upper function rotary switch has the following functions:

Operating mode 1:

All into FBV12 taught-in bus 1 signals are unchanged transmitted to bus 2.

Operating mode 2:

All into FBV12 taught-in bus 1 signals are unchanged transmitted to bus 2. However FSU12D and FTS12EM signals have a 256 points greater identification number (ID).

Operating mode 3:

All into FBV12 taught-in bus 1 signals are unchanged transmitted to bus 2. However FSU12D and FTS12EM signals have a 512 points greater identification number (ID).

Operating mode 4:

FSU12D and FTS12EM signals from bus 1 are unchanged transmitted from bus 1 to bus 2 without being taught-in into the FBV12. All other signals have to be taught-in into the FBV12 for transmission to bus 2.

Operating mode 5:

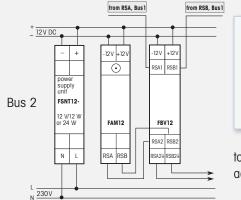
FSU12D and FTS12EM signals from bus 1 are transmitted with a 256 points greater identification number from bus 1 to bus 2 without being taught-in into the FBV12. All other signals have to be taught-in into the FBV12 for transmission to bus 2.

Operating mode 6:

and FTS12EM signals from bus 1 are transmitted with a 512 points greater identification number from bus 1 to bus 2 without being taught-in into the FBV12. All other signals have to be taught-in into the FBV12 for transmission to bus 2.

In the operating mode 4, 5 and 6 a maximum of 30 FTS12EM can be operated in bus 1 and bus 2 with two FBV12 and 10 switches each.

Typical connection bus connector FBV12



Bus 1 signals are tapped by RSA/RSB and transmitted directly to the antenna module FAM12 in **Bus 2**.

to Bus 2 actuators

FBV12-12V DC Bus connector EAN 4010312301388 **50,20 €/pc.**

Wireless Antenna Module for Server FVS-Safe or PC FAM-USB

FAM-USB

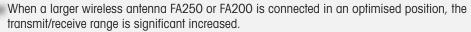




Wireless antenna module (receiver and transmitter) with USB port to operate a FVS-Safe server or a PC in conjunction with the FVS-Home Wireless Visualisation and Control Software.

USB port type A with 1m connecting cable.

SMA socket for enclosed small antenna.



It is only permitted to connect a high performance receive antenna FA200 if wireless signals are only received and not transmitted.

Housing dimensions Ixwxh: 78x40x22mm.

The license for the FVS-Home software is included in the price of the FAM-USB. One license key is included.

WEEE registration number DE 30298319

FAM-USB Wireless USB receiver EAN 4010312305003 **149,60 €/pc.**

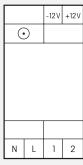
Wireless Powernet Connector for Input and Output FPV12



FPV12-12 V DC







Wireless Powernet connector to input and output wireless telegrams into and out of the 230 V power system. With 32 data channels. Only 0.7 watt standby loss. Also settable as repeater. If required, a wireless antenna FA250 or FA200 can be connected.

Modular device for DIN-EN 60715 TH35 rail mounting.

2 modules = 36 mm wide, 58 mm deep.

FPV12s are used to input wireless telegrams into the power mains and output them to the Eltako wireless network at another location. An FPV12 can operate in both directions. Up to four FPV12s and FPV12USBs can be combined into a group to enter or output telegrams at various points in the power mains.

The 12 V DC power supply is provided by a switching power supply unit FSNT12-12 V that is only 1 or 2 modules wide. With a power consumption of 12 W or 24 W, it can also power actuators as a rail mounted device.

The length of the 230V transmission line between input and output can be up to 300 metres. It is dependent on the contact resistance of the intermediate connections and the cable layout. If Powernet telegrams are not coupled into other external cables via parallel lines, this can be arranged using a phase coupler FPP12 so that output can be made to any line.

Up to 32 sensors with their fixed ID numbers saved can be taught-in in the input FPV12. When these sensors are taught-in in the actuators, new unique ID numbers are issued by the output FPV12. This ensures that the actuators only execute the commands of the output FPV12, even if the original wireless telegrams arrive there.

Every FPV is equipped with a **fault relay** for safety applications. This closes the floating contact 1-2 for 3 seconds if the output FPV sends no receive confirmation within a preset time or the data buffer overflows.

Up to 24 consecutive incoming wireless telegrams are buffered and pushbutton signals are transferred as first priority. Transmission takes place in compliance with CENELEC B in the range from 95 to $125\,\text{KHz}$ at up to $2.5\,\text{Kbps}$.

The **red LED** accompanies the teach-in process and indicates incoming wireless telegrams in operation by blinking briefly. The green LED indicates received Powernet telegrams in operation by blinking briefly.

FPV12-12V DC

Wireless Powernet connector

EAN 4010312305249

208,90 €/pc.

FPV12USB-12V DC







Wireless Powernet connector to input wireless telegrams from the FVS-Safe server into the 230 V power mains and to output wireless telegrams from the 230 V power mains via the USB interface directly to a FVS-Safe server. Only 0.7 watt standby loss.

Modular device for DIN-EN 60715 TH35 rail mounting. 2 modules = 36 mm wide, 58 mm deep.

Up to four FPV12s and FPV12USBs can be combined into a group to enter or output telegrams at various points in the power mains.

For power supply, cable length and fault relay, see the FPV12-12 V DC description.

FPV12USB-12V DC

Wireless Powernet connector

EAN 4010312311219

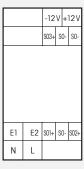
199,80 €/pc.

Wireless Powernet Meter Connector for Input and Output FPZ12

FPZ12S0-12 V DC







Wireless Powernet meter connector with 3 SO inputs to enter meter telegrams into the 230 V power mains. Only 0.7 watt standby loss.

Modular device for DIN-EN 60715 TH35 rail mounting.

2 modules = 36mm wide, 58mm deep.

To input meter telegrams in the power mains, up to 10 FPZ12SOs and therefore 30 meters can be connected to form one group.

Up to 3 meters and their meter readings can be metered in the input FPZ12 via the display by pressing MODE and SET. At the same time, you can define from which output FPZ12 meter messages can be evaluated.

Meter telegrams can be output from the power mains either by one or several FPZ12USBs and their USB interfaces directly into an FVS-Safe or by FPZ12Fs into Eltako wireless networks.

For power supply and cable length, see the FPV12-12 V DC description.

FPZ12S0-12V DC

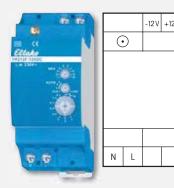
Wireless Powernet meter connector

EAN 4010312311387

183,80 €/pc.

FPZ12F-12V DC





Wireless Powernet meter connector to output meter telegrams from the 230 V power mains into the Eltako wireless network. With exchangeable antenna. Only 0.7 watt standby loss. If required, a wireless antenna FA250 or FA200 can be connected.

Modular device for DIN-EN 60715 TH35 rail mounting.

2 modules = 36 mm wide, 58 mm deep.

To output meter telegrams into the Eltako wireless network, up to 30 FPZ12Fs for 30 meters can be connected to form a group. Every FPZ12F sends only telegrams whose authorisation are saved in the input FPZ12SO.

For power supply and cable length, see the FPV12-12 V DC description.

FPZ12F-12V DC

Wireless Powernet meter connector

EAN 4010312311394

232,00 €/pc.

FPZ12USB-12V DC





Wireless Powernet meter connector to output meter telegrams from the 230V power mains into the Eltako building wireless network.
Only 0.7 watt standby loss.

Modular device for DIN-EN 60715 TH35 rail mounting. 2 modules = 36 mm wide, 58 mm deep.

To output meter telegrams in the power mains in up to 30 server networks, up to 30 FPZ12USBs for 30 meters can be connected to form one group. Every FPZ12USB sends only telegrams whose authorisation is saved in the input FPZ12SO.

For power supply and cable length, see the FPV12-12 V DC description.

FPZ12USB-12V DC

Wireless Powernet meter connector

EAN 4010312311400

199,80 €/pc.

Wireless Powernet Repeater FPR12 Wireless Powernet Phase Coupler FPP12



FPR12-12 V DC







Wireless Powernet repeater for the Powernet connectors FPV12 and the Powernet meter connectors FPZ12. Only 0.7 watt standby loss.

Modular device for DIN-EN 60715 TH35 rail mounting.

2 modules = 36 mm wide, 58 mm deep.

The 12V DC power supply is provided by a switching power supply unit FSNT12-12V that is only 1 or 2 modules wide. With a power consumption of 12W or 24W, it can also power actuators as a rail mounted device.

The length of the 230 V transmission line between the input Powernet connector and the repeater can be up to 300 metres. It is dependent on the contact resistance of the intermediate connections and the cable layout. The repeater also lengthens the distance by up to 300 metres.

Up to 10 FPZ12SO devices can be taught-in for up to 30 meters. Two connected FPV12 devices require no teach-in since the rotary switch settings are sufficient for this.

Up to 24 consecutive incoming wireless telegrams are buffered and pushbutton signals are transferred as first priority. Transmission takes place in compliance with CENELEC B in the range from 95 to 125 KHz at up to 2.5 Kbps.

The **green LED** under the bottom rotary switch accompanies the teach-in process according to the operating instruction and indicates incoming Powernet telegrams in operation by blinking briefly.

FPR12-12V DC

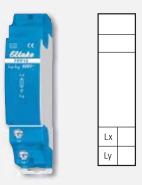
Wireless Powernet repeater

EAN 4010312312162

159,80 €/pc.

FPP12





Wireless Powernet phase coupler to transmit wireless telegrams over the 230 V power mains. Only 0.2 watt standby loss.

Modular device for DIN-EN 60715 TH35 rail mounting.

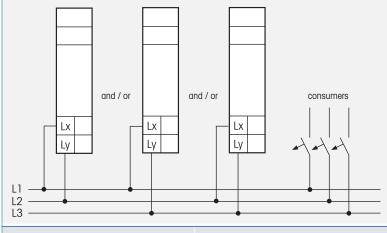
1 module = 18 mm wide, 58 mm deep.

Voltage between the two outer conductors: 400 V/50 Hz.

The phase coupler increases the capacitive coupling between 2 different outer conductors if, for example, the cables within the installation are not laid in parallel at a distance of at least several metres apart (as ribbon cables or jacketed cables).

Caution: The phase coupler may only be connected to the input side of the line circuit-breaker.

Typical connection



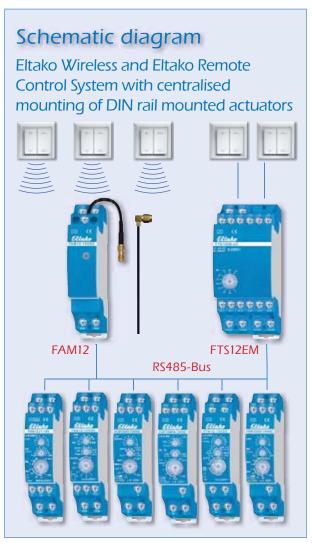
FPP12 Wireless Powernet phase coupler

EAN 4010312311769

25,40 €/pc.

Switching Actuators and Dimming Actuators for the Eltako RS485 Bus





RS485 bus switching actuator 4-channel impulse switch FSR12	4-1
RS485 bus switching actuator FSA12	4-2
RS485 bus switching actuator 2 channel impulse switch with integr. relay function FSR12	4-3
RS485 bus switching actuator multifunction impulse switch with integr. relay function FMS12	4-4
RS485 bus universal dimming actuator FUD12NPN and FUD12/800W	4-5
Capacity enhancer LUD12 for universal dimmer switch FUD12/800W	4-7
RS485 bus switching actuator for shading elements and roller shutters FSB12	4-9
RS485 bus dimming actuator controller FSG12 for electronic ballast units 1-10V	4-10
RS485 bus dimming actuator constant light controller FKR12 for electronic ballast units 1-10V	4-11
RS485 bus dimming actuator constant light controller FKR12UD with universal dimmer switch	4-12
RS485 bus dimming actuator light scene controller FLS12 for electronic ballast units 1-10V	4-13
RS485 bus dimming actuator light scene controller FLS12UD with universal dimmer switch	4-14
RS485 bus switching actuator staircase off-delay timer FTN12	4-15
RS485 bus switching actuator multifunction time relay FMZ12	4-16
RS485 bus switching actuator heating/cooling relay FHK12 and 4 channel heating relay F4H12	4-17
RS485 bus switching actuator ventilation relay F4L12	4-19
RS485 bus switching actuator mains disconnection relay FFR12	4-20
RS485 bus switching actuator time relay for card switch FZK12	4-21
NEW RS485 bus switching actuator multifunction sensor relay FMSR12	4-22

Centralised installation of actuators

Centralised installation in the 'intelligent distributor' has advantages and disadvantages compared with decentralised installation in switch boxes or suspended ceilings.

The main disadvantage is long wires since each actuator and consumer requires a direct connection.

However, the additional material consumption and the routing costs are immediately compensated since only a single receiver module (FAM antenna module) is required for centralised installation and only a single power supply (FSNT12 switch mode power supply unit), whereas every single decentralised actuator requires an integrated receiver and power supply.

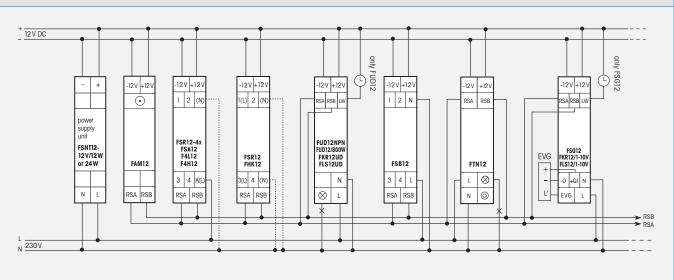
Another disadvantage is the longer wireless links from the pushbuttons to the distributor. However, here too, the disadvantage very quickly becomes an advantage: distances are reduced by a rather low-cost FA250 receive antenna or even a high performance FA200 receive antenna with a gain of 7 dBi. An FVS-Safe server can even be installed.

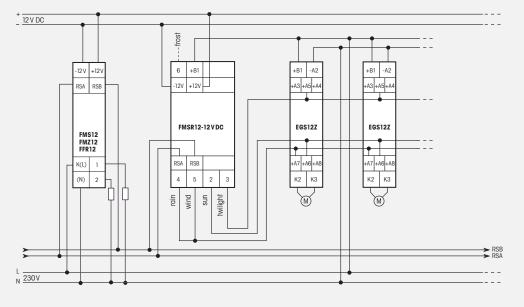
What remains are only the familiar advantages:

very simply installation, well arranged wiring, easy replacement, rapid upgrading and no need to open up plaster, wallpaper etc. on site. Some functions cannot be implemented anyway due to space constraints in the switch box.

Very often the ideal solution is a combination of centralised and decentralised installation.

Typical connection wireless antenna module with wireless switching actuators connected in series





RS485 Bus Switching Actuator 4-channel Impulse Switch FSR12



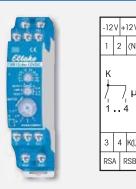
FSR12-4x-12 V DC











4-channel switching actuator ES/ER/EW impulse switch with integrated relay function, 1 NO contact per channel 4A/250V AC, incandescent lamps 1000 watts, potential free from the power supply, with DX technology. Only 0.1 watt standby loss.

Modular device for DIN-EN 60715 TH35 rail mounting.

1 module = 18 mm wide, 58 mm deep.

Connection to the Eltako RS485 Bus, terminals RSA and RSB.

Up to a total of 128 actuators can be added in this way.

Up to 48 wireless pushbuttons each with 4 functions can be assigned to each channel therefrom one or more central pushbuttons.

Patented Eltako Duplex technology allows you to switch normally potential free contacts in zero passage switching when 230V A/C voltage 50Hz is switched. This drastically reduces wear. To achieve this, simply connect the N conductor to the terminal (N) and L to K (L). This results in an additional standby consumption of only 0.1 watt.

The 12 V DC supply voltage of the complete RS485 bus is mainly powered at 12 W or 24 W by a switch mode power supply unit FSNT12-12 V that is only 1 or 2 pitch units wide. When all 4 relays of the FSR12 are switched on, a power of 0.7 watts is required. If a power failure occurs, the device is switched off in a defined sequence.

The channels can be taught-in as ES and/or ER channel separately from each other. Scene control:

Several channels of one or several FSR12-4x-12 V DC devices can be switched on or off in a scene by one of the four signals of a pushbutton with double rocker taught-in as a scene button. **Central commands on PC** are sent using the FVS Wireless Visualisation and Control Software. To do this, teach-in one or several FSR12-4x-12 V DC devices.

Use the rotary switches to teach-in the buttons and test the 4 channels as required. For normal mode, the middle and lower rotary switches are then set to AUTO. With the upper rotary switch the EW time (0-120 seconds) is directly set for relays or the RV time (0-120 minutes) for impulse switches for all channels if necessary.

When wireless motion detector and brightness sensors FBH are taught-in, define the switching threshold separately for each channel using the top rotary switch. The switching threshold switches the lighting on or off depending on the brightness (also motion) (from approx. 30 lux in position 0 to approx. 300 lux in position 90). If the FBH is taught-in in position 120, it is only evaluated as a motion detector. A off delay of 1 minutes is a fixed setting in the FBH. An additionally set RV time is not taken into account.

When wireless brightness sensors FAH60 are taught-in, define the switching threshold separately for each channel using the top rotary switch. The switching threshold switches the lighting on or off depending on the brightness (from approx. Olux in position 0 to approx. 50 lux in position 120). A hysteresis of approx. 300 lux is permanently set for switch on/off. An additionally set RV time is not taken into account.

Only one FBH or FAH is taught-in per channel. However, one FBH or FAH can be taught-in in several channels.

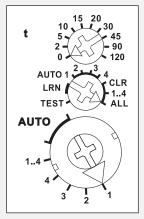
When wireless window/door contacts FTK oder Hoppe window handles are taught-in, different functions can be set with the middle rotary switch in position AUTO 1 to AUTO 4 and linked to maximum 40 FTKs: AUTO 1 = window closed then output active. AUTO 2 = window open then output active. In settings AUTO 3 and AUTO 4 the FTKs taught-in to a single channel are linked automatically. With AUTO 3 all FTKs must be closed so that the N/O contact closes (e.g. for climate control). With AUTO 4 one open FTK is sufficient to close the N/O contact (e.g. for an alarm signal or to switch on the power supply for an extractor hood).

One or several FTKs can be taught-in in several channels to allow several simultaneous functions in each FTK. After a power failure the link is restored by a new signal to the FTK and a signal on the next status message 15 minutes later.

An additionally set RV time is not taken into account.

The LED below the upper function rotary switch performs during the teach-in process according to the operation manual. It shows control commands by short flickering during operation.

Function rotary switches



Standard setting ex works.

Connection example page **4**-0. Technical data, see page **T**-0. Housing for operating instructions GBA12 page **Z**-4.

FSR12-4x-12V DC

RS485 bus switching actuator

EAN 4010312311424

51,90 €/pc.

RS485 Bus Switching Actuator FSA12

FSA12-12 V DC

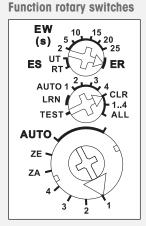












Standard setting ex works.

4-channel switching actuator ES/ER/EW, 1 NO contact per channel 4A/250 V AC, potential free from the power supply, with DX technology.

Only 0.1 watt standby loss.

Modular device for DIN-EN 60715 TH35 rail mounting. 1 module = $18 \, \text{mm}$ wide, $58 \, \text{mm}$ deep. Connection to the Eltako RS485 bus, terminals RSA and RSB.

Up to a total of 128 actuators can be added in this way.

Up to 35 pushbuttons each with 4 functions can be assigned to each channel of an FSA12, of which one or more central control pushbuttons in the setting ES.

The channels are configured together. Each NO contact has a switching capacity up to $4\,A/250\,V$ AC. Incandescent lamps 1000 watts.

Patented Eltako Duplex technology allows you to switch normally potential free contacts in zero passage switching when 230V A/C voltage 50Hz is switched. This drastically reduces wear. To achieve this, simply connect the N conductor to the terminal (N) and L to K(L). This results in an additional standby consumption of only 0.1 watt.

If the channels are used to control switchgear that has no zero passage switching, (N) should not be connected, otherwise the additional off-delay would have the opposite effect.

The 12V DC supply voltage of the complete RS485 bus is mainly powered at 12W or 24W by a switch mode power supply unit FSNT12-12V that is only 1 or 2 pitch units wide. When all 4 relays are switched on, a power of 0.7 watts is required.

The upper rotary switch defines the function of the 4 channels together as impulse switch with universal switch (**ES**-UT), as impulse switch with direction switch (**ES**-RT), as fleeting NO contact (**EW**) or as relay (**ER**).

In ES function, central control commands ON/OFF can be taught-in.

In EW function, a wiping time of 2 to 25 seconds can be set.

The middle and the lower rotary switches are for teaching-in the pushbuttons and if necessary the four channels will be tested. In normal mode, the two rotary switches are finally set to AUTO.

When **wireless motion/brightness sensors FBH** are taught-in, turn the top rotary switch to define the switching threshold on the last FBH taught-in. This switches the sensor on or off in case of motion detected or dependent on the brightness detected (from approx. 30 lux in position RT to approx. 300 lux in position 25).

If the FBH is taught-in in position ER, it is only evaluated as motion detector.

An off delay of 1 minute is a fixed setting in the FBH.

When **wireless window/door contacts FTK** are taught-in, different functions can be set with the middle rotary switch in position AUTO 1 to AUTO 4 and linked to maximum 32 FTKs: AUTO 1 = window closed then output active. AUTO 2 = window open then output active. In settings AUTO 3 and AUTO 4 the FTKs taught-in to a single channel are linked automatically. With AUTO 3 all FTKs must be closed so that the N/O contact closes (e.g. for climate control). With AUTO 4 one open FTK is sufficient to close the N/O contact (e.g. for an alarm signal or to switch on the power supply for an extractor hood).

One or several FTKs can be taught-in in several channels to allow several simultaneous functions in each FTK.

After a power failure the link is restored by a new signal to the FTK and a signal on the next status message 15 minutes later.

The LED below the upper function rotary switch performs during the teach-in process according to the operation manual. It shows control commands by short flickering during operation.

RS485 Bus Switching Actuator – 2 Channel Impulse Switch with integrated relay function FSR12



FSR12-12 V DC











1(L) 2 (N)

1(L) 3(L)

1 (L) 3(L)

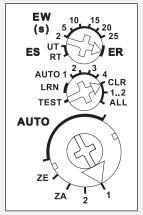
1 (L) 3(L)

2 4

3(L) 4 (N)

RSA RSB

Function rotary switches



Standard setting ex works.

2-channel switching actuator ES/ER/EW impulse switch with integrated relay function, 1+1 NO contacts potential free 4A/250 V AC, incandescent lamps 1000 watts, with DX technology. Only 0.1 watt standby loss.

Modular device for DIN-EN 60715 TH35 rail mounting. 1 module = 18 mm wide, 58 mm deep. **Connection to the Eltako RS485 bus, terminals RSA and RSB.**

Up to a total of 128 actuators can be added in this way.

Up to 35 pushbuttons each with 4 functions can be assigned to each channel, of which one or more central control pushbuttons in the setting ES.

Patented Eltako Duplex technology allows you to switch normally potential free contacts in zero passage switching when 230 V A/C voltage 50 Hz is switched. This drastically reduces wear. To achieve this, simply connect the N conductor to the terminal (N) and L to 1(L) and/or 3 (L). This results in an additional standby consumption of only 0.1 watt.

The 12V DC supply voltage of the complete RS485 bus is mainly powered at 12W or 24W by a switch mode power supply unit FSNT12-12V that is only 1 or 2 pitch units wide. When both relays of the FSR12 are switched on, 0.5 watts are required.

The upper rotary switch defines the function of the 2 channels together as impulse switch with universal switch (**ES**-UT), as impulse switch with direction switch (**ES**-RT), as fleeting NO contact (**EW**) or as relay (**ER**).

In ES function, central control commands ON/OFF can be taught-in.

In EW function, a wiping time of 2 to 25 seconds can be set.

The middle and the lower rotary switches are for teaching-in the pushbuttons and if necessary the two channels will be tested. In normal mode, the two rotary switches are finally set to AUTO. When **wireless motion/brightness sensors FBH** are taught-in, use the top rotary switch to select the switching threshold separately for each channel. The switching threshold switches the lighting on or off depending on the brightness (from approx. 30 lux in position RT to approx. 300 lux in position 25). If the FBH is taught-in in position ER, it is only evaluated as motion detector. An off delay of 1 minute is a fixed setting in the FBH.

When **wireless outdoor brightness sensors FAH60** are taught-in, use the top rotary switch to select the switching threshold separately for each channel. The switching threshold switches the lighting on or off depending on the brightness (from approx. 0 lux in position RT to approx. 50 lux in position 25). A hysteresis of approx. 300 lux is permanently set for switch on/off. In operation, FBH and FAH perform the switch on/off function in function position ES. In function position ER, FBH and FAH generate a switch-on wiping impulse of 0.2 seconds.

When **wireless window/door contacts FTK** are taught-in, different functions can be set with the middle rotary switch in position AUTO 1 to AUTO 4 and linked to maximum 32 FTKs: AUTO 1 = window closed then output active. AUTO 2 = window open then output active. In settings AUTO 3 and AUTO 4 the FTKs taught-in to a single channel are linked automatically. With AUTO 3 all FTKs must be closed so that the N/O contact closes (e.g. for climate control). With AUTO 4 one open FTK is sufficient to close the N/O contact (e.g. for an alarm signal or to switch on the power supply for an extractor hood).

One or several FTKs can be taught-in in several channels to allow several simultaneous functions in each FTK.

After a power failure the link is restored by a new signal to the FTK and a signal on the next status message 15 minutes later.

The LED below the upper function rotary switch performs during the teach-in process according to the operation manual. It shows control commands by short flickering during operation.

RS485 Bus Switching Actuator Multifunction Impulse Switch with integr. relay function FMS12

FMS12-12 V DC











Switching actuator multifunction time relay. 1+1 NO contacts potential free 16A/250 V AC, incandescent lamps 2000 watts, with DX technology. Only 0.05-0.5 watt standby loss.

Modular device for DIN-EN 60715 TH35 rail mounting.

1 module = 18mm wide, 58mm deep.

State-of-the-art hybrid technology combines advantages of nonwearing electronic control with high capacity of special relays.

Connection to the Eltako RS485 bus, terminals RSA and RSB.

Up to a total of 128 actuators can be added in this way.

Up to 35 pushbuttons can be assigned, of which one or more central control pushbuttons.

Patented Eltako Duplex technology allows you to switch normally potential free contacts in zero passage switching when 230 V A/C voltage 50 Hz is switched. This drastically reduces wear. To achieve this, simply connect the N conductor to the terminal (N) and L to K(L). This results in an additional standby consumption of only 0.1 watt.

Maximum current as the sum of both contacts 16A at 230V.

The 12V DC supply voltage of the complete RS485 bus is mainly powered at 12W or 24W by a switch mode power supply unit FSNT12-12V that is only 1 or 2 pitch units wide. When both relays of the FSM12 are switched on, 0.5 watts is required.

The upper and the middle rotary switches are for teaching-in the sensors. In normal mode, the middle rotary switch is then set to AUTO and the bottom rotary switch to the required function:

2S = Impulse switch with 2 NO contacts

(2xS) = 2-fold impulse switch with 1 NO contact each

WS = Impulse switch with 1 NO contact and 1 NC contact (0.3 W standby loss)

SS1 = Impulse multi circuit switch 1 + 1 NO contacts for switching sequence 1

SS2 = Impulse multi circuit switch 1 + 1 NO contacts for switching sequence 2

\$\$3 = Impulse multi circuit switch 1 + 1 NO contacts for switching sequence 3

GS = Impulse group switch 1 + 1 NO contacts

2R = Switching relay with 2 NO contacts

WR = Switching relay with 1 NO contact and 1 NC contact (0.3 W standby loss)

RR = Switching relay (closed-circuit current relay) with 2 NC contacts (0.5 W standby loss)

GR = Group relay 1 + 1 NO contacts

Switching sequence SS1: 0 - contact 1 (K-1) - contact 2 (K-2) - contacts 1+2

Switching sequence SS2: 0 - contact 1 - contacts 1 + 2 - contact 2

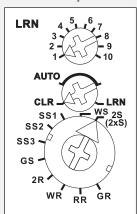
Switching sequence SS3:0 - contact 1 - contacts 1 + 2

Switching sequence GS: 0 - contact 1 - 0 - contact 2

GR: Relay with alternating closing contacts.

The LED below the upper function rotary switch performs during the teach-in process according to the operation manual. It shows control commands by short flickering during operation.

Function rotary switches



Standard setting ex works.

RS485 Bus Universal Dimming Actuator FUD12NPN



FUD12NPN-12V DC





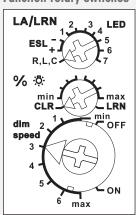








Function rotary switches



Universal dimming actuator 1 channel, power MOSFET up to 500 W, energy saving lamps ESL up to 100 W and LED up to 100 W.
Only 0.3 watt standby loss. With adjustable minimum or maximum brightness and dimming speed. With switching operation for light alarm clocks, children's rooms and snooze function. Also with light scene control by PC or wireless pushbuttons.

Modular device for DIN-EN 60715 TH35 rail mounting. 1 module = $18\,\mathrm{mm}$ wide, $58\,\mathrm{mm}$ deep. Universal dimming actuator for R, L and C loads up to 500 watts, depending on ventilation conditions. Dimmable energy saving lamps ESL up to 100 watts and dimmable 230V LED lamps up to 100 watts. Automatic detection of load R+L or R+C. ESL and LED is manually settable.

Zero passage switching with soft ON and soft OFF to protect lamps.Switching voltage 230V. No minimum load required. The 12V DC supply voltage of the complete RS485 bus is mainly powered at 12W or 24W by a switch mode power supply unit FSNT12-12V that is only 1 or 2 pitch units wide. The power consumption of the 12V DC power supply is only 0.05W. The brightness level is stored on switch-off (memory). In case of a power failure the switch position and the brightness stage are stored and may be switched on when the power supply is restored. Automatic electronic overload protection and overtemperature switch-off.

Connection to the Eltako RS485 bus, terminals RSA and RSB.

Up to a total of 128 actuators can be added in this way.

The top rotary switch LA/LRN is first required for teach-in and in operation, it defines what load type the dimming curve should be set to:

Position R, L, C is the setting for all load types except for ESL and LED. In particular for 230V glow and halogen lamps. The load type, inductive or capacitive, is detected automatically. **The settings +ESL and -ESL** consider the special conditions regarding dimmable energy saving lamps: The starting operation is optimized and adapted to the dimming curve. In these settings the special switching operation for children's rooms is not possible and no wound (inductive) transformer must be dimmed.

In position -ESL Memory is switched off. This can be of advantage for energy saving lamps because cold energy saving lamps require a higher minimum brightness as it will possibly be stored in Memory for warmer energy saving lamps.

The position LEDs take account of special conditions with dimmable 230V LED lamps: A number of different dimming curves are available. An updated list with dimming curve assignment for commercially available dimmable 230V LED lamps is ready for downloading at www.eltako.com/dimming_curve/LED_gb.pdf. In these settings no wound (inductive) transformer must be dimmed. The minimum brightness (fully dimmed down) or maximum brightness (fully dimmed up) is adjustable with the middle % rotary switch. In the setting LRN up to 30 pushbuttons can be assigned, of which one or more central pushbuttons. The dimming speed is adjustable using the bottom dimming speed rotary switch. At the same time, the soft OFF periods are changed.

The pushbuttons can be taught-in either as direction switchs or universal switches: When installed as a direction switch, one side is then 'switch on and dim up' and the other side is 'switch off and dim down'. A double-click on the switch-on side activates automatic dim-up to full brightness at dim speed. A double click on the switch-off side activates the snooze function. The children's room function is implemented on the switch-on side. **As a universal switch**, change the direction by briefly releasing the pushbutton. With switching operation for children's rooms and snooze function.

Switching for light alarm clocks: A wireless signal of a time clock which was taught-in accordingly starts the wake up function by switching on the light at the lowest brightness level and dims up slowly until the maximum level is reached. Dependent on the set dim speed the wake up time is between 30 and 60 minutes. The dimming process is stopped by tapping briefly, e.g. on the hand-held transmitter. The contact of the timer must conect terminals +12V and LW at least 0.2 seconds. At the settings ESL no switching for light alarm clocks is possible.

Switching operation for children's rooms (universal switch or direction switch on the switch-on side): If the light is switched on by holding down the pushbutton, it starts at the lowest brightness level after approx. I second and dims up slowly as long as the pushbutton is held down. The last saved brightness level is not modified.

Snooze function (universal switch or direction switch on the switch-off side): With a double impulse the lighting is dimmed down from the current dimming position to the minimum brightness level and switched off. The current dimming position as well as the adjustable minimum brightness level determine the dimming time (max. = 60 minutes) which can be reduced as required. It can be switched off at any time by short-time control commands during the lighting is dimmed down.

Light scenes on the PC are set and retrieved using the Wireless Visualisation and Control Software FVS.

One or several FUD12NPN devices must be taught in on the PC as dimming switches with percentage brightness values. **Lights scenes with wireless pushbuttons** are taught-in on the FUD. Up to four brightness values are retrievable using a direct light scene pushbutton (pushbutton with double rocker, top left = light scene 1, top right = light scene 2, bottom left = light scene 3 and bottom right = light scene 4) and/ or using a sequential light scene pushbutton (pushbutton or one half of a double pushbutton, press top = next light scene, press bottom = previous light scene).

The LED below the upper function rotary switch performs during the teach-in process according to the operation manual. It shows control commands by short flickering during operation.

Connection example page 4-0. Technical data, see page T-0. Housing for operating instructions GBA12 page Z-4.

FUD12NPN-12V DC

RS485 bus universal dimming actuator

EAN 4010312300305

56,50 €/pc.

RS485 Bus Universal Dimming Actuator FUD12/800W

FUD12/800W-12V DC

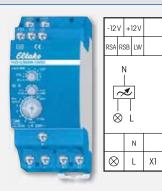












Universal dimming actuator 1 channel, power MOSFET up to 800 W, energy saving lamps ESL up to 100W and LED up to 100W.
Only 0.3 watt standby loss. With adjustable minimum or maximum brightness and dimming speed. With switching operation for light alarm clocks, children's rooms and snooze function. Also with light scene control by PC or wireless pushbuttons.

Modular device for DIN-EN 60715 TH35 rail mounting. 2 modules = 36 mm wide, 58 mm deep. Universal dimming actuator for R, L and C loads up to 800 watts, depending on ventilation conditions. Automatic detection of load R+L or R+C. ESL and LED is manually settable. Dimmable energy saving lamps ESL up to 100 watts and dimmable 230V LED lamps up to 100 watts.

Up to 3400W with capacity enhancers LUD12-230V (for description see next page) at terminals X1 and X2.

Zero passage switching with soft ON and soft OFF to protect lamps.

Switching voltage 230 V. No minimum load required.

The 12V DC supply voltage of the complete RS485 bus is mainly powered at 12W or 24W by a switch mode power supply unit FSNT12-12V that is only 1 or 2 pitch units wide. The power consumption of the 12V DC power supply is only 0.05W.

The brightness level is stored on switch-off (memory).

In case of a power failure the switch position and the brightness stage are stored and may be switched on when the power supply is restored.

Automatic electronic overload protection and overtemperature switch-off.

Connection to the Eltako RS485 Bus, terminals RSA and RSB.

Up to a total of 128 actuators can be added in this way.

The top rotary switch LA/LRN is first required for teach-in and in operation, it defines what load type the dimming curve should be set to.

Position R, L, C is the setting for all load types except for ESL and LED. In particular for 230V glow and halogen lamps. The load type, inductive or capacitive, is detected automatically. **The settings +ESL and -ESL** consider the special conditions regarding dimmable energy saving

lamps: The starting operation is optimized and adapted to the dimming curve. In these settings the special switching operation for children's rooms is not possible and no wound (inductive) transformer must be dimmed. In position -ESL Memory is switched off. This can be of advantage for energy saving lamps because cold energy saving lamps require a higher minimum brightness as it will possibly be stored in Memory for warmer energy saving lamps.

The position LEDs take account of special conditions with dimmable 230V LED lamps: A number of different dimming curves are available. An updated list with dimming curve assignment for commercially available dimmable 230V LED lamps is ready for downloading at **www.eltako.com/dimming_curve/LED_gb.pdf**. In these settings no wound (inductive) transformer must be dimmed.

The minimum brightness (fully dimmed down) or maximum brightness (fully dimmed up) is adjustable with the top % protary switch. In the setting LRN up to 30 pushbuttons can be assigned, of which one or more central pushbuttons.

The dimming speed is adjustable using the **bottom dimming speed rotary switch**. At the same time, the soft ON and soft OFF periods are changed.

The pushbuttons can be taught-in either as direction switches or universal switches:

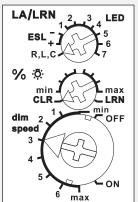
When installed as a direction switch, one side is then 'switch on and dim up' and the other side is 'switch off and dim down'. A double-click on the switch-on side activates automatic dim-up to full brightness at dim speed. A double click on the switch-off side activates the snooze function. The children's room function is implemented on the switch-on side.

As a universal switch, change the direction by briefly releasing the pushbutton. With switching operation for children's rooms and snooze function.

Functions switching for light alarm clocks, switching operation for children's rooms, snooze function, light scenes on PC and light scenes by wireless pushbuttons same as FUD12NPN.

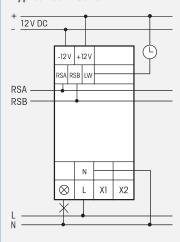
The LED below the upper function rotary switch performs during the teach-in process according to the operation manual. It shows control commands by short flickering during operation.

Function rotary switches



Standard setting ex works.

Typical connection



Capacity Enhancer LUD12 for Universal Dimming Actuator FUD12/800W



LUD12-230 V









Power MOSFET up to 400 W, ESL up to 100 W and 230 V LED up to 100 W. Standby loss 0.1 watt only.

Modular device for DIN EN 60715 TH35 rail mounting.

1 module = 18 mm wide, 58 mm deep.

Capacity enhancers LUD12-230V can be connected to the universal dimming actuator EUD12Z, EUD12D, SUD12 (1-10V) input and FUD12/800W. By this the switching capacity for **one lamp** will be increased according to the tables depending on ventilation conditions up to 400, 350 or 300W or **alternatively for additional lamps** up to 400W per each capacity enhancer.

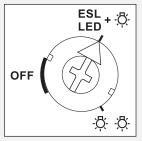
Both switching modes for increase of capacity can be executed simultaneously. Automatic detection of load R+L or R+C in the circuit "Increase of capacity with **additional** lamps". Supply voltage 230 V.

Automatic electronic overload protection and over-temperature switch-off.

In the mode "Increase of capacity with additional lamps" the kind of load of a capacity enhancer LUD12-230 V can vary from the kind of load of the universal dimming actuator.

Therefore it is possible to mix L loads and C loads.

Function rotary switch



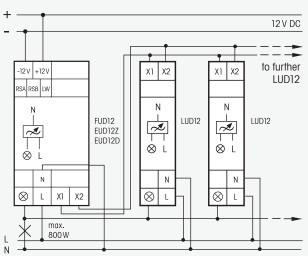
Standard setting ex factory.

The switching mode "one lamp"(為) or "additional lamps" (為) is set with a rotary switch on the front.

This setting must be same as the actual installation, otherwise there is a risk of destruction of the electronics.

For different setting on ESL and 230V LED lamps, see next page.

Increase of capacity for one lampe (♣), ESL and LED see next page



FUD12/800W:

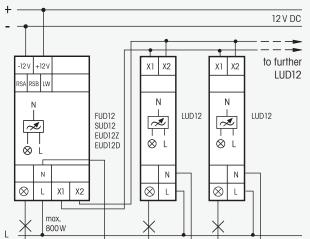
1.-4. LUD12 + 350W each 5.-8. LUD12 + 300W each

EUD12Z and EUD12D:

1. LUD12 + 400 W 2.-5. LUD12 + 350 W each 6.-9. LUD12 + 300 W each

Please refer to the deviations in the connection diagrams for EUD12Z, EUD12D and SUD12 in the Operator Manual.

Increase of capacity with additional lamps (&&), ESL and LED see next page



FUD12/800W:

1.-6. LUD12 + 400 W each 7. LUD12 + 200 W

EUD12Z, EUD12D and SUD12:

1.-7. LUD12 + 400 W each 8. LUD12 + 200 W

Please refer to the deviations in the connection diagrams for EUD12Z, EUD12D and SUD12 in the Operator Manual.

Housing for operating instructions GBA12 page **Z**-4.

LUD12-230V Power MOSFET up to 400 W

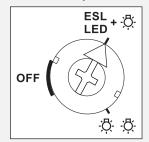
EAN 4010312107867

62,20 €/pc.

Capacity Enhancer LUD12 for Universal Dimming Actuator FUD12/800 W

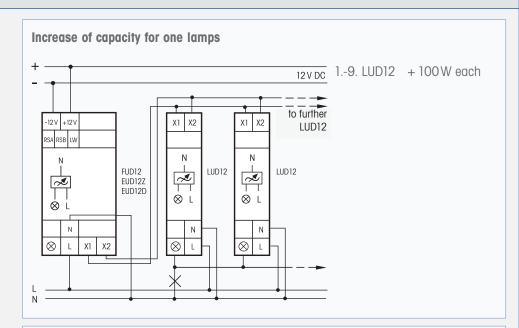
Increase of capacity for dimmable energy saving lamps ESL and dimmable 230V LED lamps

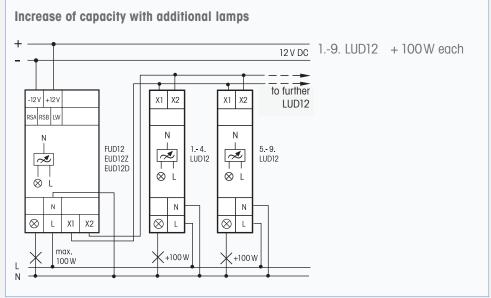
Function rotary switch



This setting must be made on the front panel on ESL and 230V LED lamps, also with power increase with additional lamps.

Otherwise there is a risk of destruction of the electronics.





Housing for operating instructions GBA12 page **Z**-4.

RS485 Bus Switching Actuator for Shading Elements and Roller Shutters FSB12



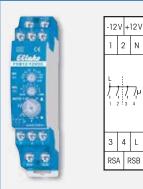
FSB12-12V DC











2-channel switching actuator for two 230 V motors, 2+2 NO contact 4A/250 V AC, potential free from power supply 12 V. Only 0.1 watt standby loss.

Modular device for DIN-EN 60715 TH35 rail mounting. 1 module = $18 \, \text{mm}$ wide, $58 \, \text{mm}$ deep. Connection to the Eltako RS485 bus, terminals RSA and RSB.

Up to a total of 128 actuators can be added in this way.

Up to 35 pushbuttons each with 4 functions can be maximal assigned to each channel, of which one or more central pushbuttons.

Zero passage switching to protect contacts and motors.

A motor is connected to 1, 2 and N; a second motor may be connected to 3, 4 and N. The 12V DC supply voltage of the complete RS485 bus is mainly powered at 12W or 24W by a switch mode power supply unit FSNT12-12V that is only 1 or 2 pitch units wide. If both relays of the FSB12 are switched on, a power of 0.5 watts is required.

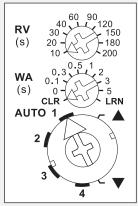
The pushbuttons can be taught-in either as direction switches or universal switches: Local control with universal pushbuttons: Each impulse causes the FSB12 to change its position in the UP-Stop-DOWN-Stop sequence.

Local control with direction pushbutton: A top impulse by pushbutton directly activates the 'UP' switch position. A bottom impulse by pushbutton directly activates the 'DOWN' switch position. A further impulse from one of the two pushbuttons stops the sequence immediately.

Central control dynamic without priority: A control signal from a pushbutton with rocker or double rocker which was taught-in as a central control direction pushbutton directly activates the switch position 'Up' with a scanning pulse up and the switch position 'Down' with a scanning pulse down. A further control signal interrupts this process immediately. Without priority because this function can be overridden by other control signals.

Central control dynamic with priority: A control signal of min. 2 seconds from a pushbutton which was taught-in as a central control pushbutton with priority directly activates the switch position 'Up' with a scanning pulse up and the switch position 'Down' with a scanning pulse down. With priority because these control signals cannot be overridden by other control signals **until** an impulse is cancelled by pressing pushbutton 'Up' or 'Down' before pressing the central control pushbutton.

Function rotary switches



Standard setting ex works.

Shading scene control: Up to 4 saved 'Down' running times are retrievable using the control signal of a pushbutton and double rocker taught-in as a scene pushbutton or taught-in by a PC loaded with the FVS software.

Function rotary switch below

AUTO 1 = In this position, the local advanced automatic reversing system for Venetian blinds is activated. When a universal pushbutton or a direction pushbutton are used for control a double impulse activates a slow rotation in the opposite direction, which can be stopped with a further impulse.

AUTO 2 = In this position, the local advanced automatic reversing system for Venetian blinds is completely switched off.

AUTO 3 = In this position, the local pushbuttons act static at first, thus, allow **reversal of Venetian blinds** by operating pushbuttons. They only switch to dynamic after 0.7 seconds continuous operation.

AUTO 4 = In this position, the local pushbuttons act only static (ER function). The time delay RV (wiping time) of the upper rotary switch is active. Central control is not possible.

 $\blacktriangle \nabla = \blacktriangle$ (UP) and \blacktriangledown (DOWN) of the lower rotary switch are the positions for **manual control**. Manual control has priority over all other control commands.

WA = Automatic reversal for Venetian blinds and awnings is controlled by the middle rotary switch. 0 = OFF, otherwise from 0.1 to 5 seconds ON with the selected reversal time. In this case, it is only for DOWN that the direction is reversed on time-out of the time lag selected by the top rotary switch, e.g. to extend awnings or set Venetian blinds to a defined position. A LED is located behind the RV-rotary switch to show the reversal time.

RV = The **time delay** (delay time RV) is set by the top rotary switch. If the FSB12 is in the UP or DOWN position the selected delay time runs (elapses); at time-out the device changes automatically to STOP. Therefore, the time delay must be chosen at least as long as the shading element or roller shutter will need to move from one limit position to the other. The LED indication for the delay time RV is located behind the rotary switch RV.

When one or several wireless window/door contacts FTK or Hoppe window handles are taught-in, a lock-out protection is set up while the door is open and disables a Central Down command.

The LED below the upper function rotary switch performs during the teach-in process according to the operation manual. It shows control commands by short flickering during operation.

Connection example page 4-0. Technical data, see page T-0. Housing for operating instructions GBA12 page Z-4.

FSB12-12V DC

RS485 bus switching actuator B+R

EAN 4010312300374

51,90 €/pc.

RS485 Bus Dimming Actuator Controller FSG12 for electronic ballast units 1-10V

FSG12/1-10V















1-10 V control output 40 mA. Only 0.9 watt standby loss. With adjustable minimum brightness and dimming speed. With switching operation for light alarm clocks, children's rooms and snooze function.

Dimming actuator 1 channel, 1 NO contact not potential free 600 VA and

Modular device for DIN-EN 60715 TH35 rail mounting. 1 module = 18 mm wide, 58 mm deep. State-of-the-art hybrid technology combines advantages of nonwearing electronic control with high capacity of special relays.

Zero passage switching to protect contacts.

The 12V DC supply voltage of the complete RS485 bus is mainly powered at 12W or 24W by a switch mode power supply unit FSNT12-12V that is only 1 or 2 pitch units wide. The power consumption of the 12V DC power supply is only 0.05W.

The brightness level is stored on switch-off (memory).

In case of a power failure the switch position and the brightness stage are stored and may be switched on when the power supply is restored.

Connection to the Eltako RS485 bus, terminals RSA and RSB. Up to a total of 128 actuators can be added in this way.

The minimum brightness (fully dimmed) is adjustable with the %. rotary switch. In the setting LRN up to 35 wireless pushbuttons can be assigned, of which one ore more central pushbuttons.

The dimming speed is adjustable using the dimming speed rotary switch.

The load is switched on and off by a bistable relay at output EVG. Switching capacity for fluorescent lamps or LV halogen lamps with EVG 600VA.

By using a bistable relay coil power loss and heating is avoided even in the on mode.

After installation, wait for short automatic synchronisation before the switched consumer is connected to the mains.

The pushbuttons can be taught-in either as direction switches or universal switches:

As a direction switch, press up is brighter and press down is darker respectively above short pressing means switch ON and below short pressing switch OFF. A double click above activates automatic updimming until full brightness with dim speed. A double click below activates snooze function. The children's room function will be realized with the upper switch.

As a universal switch, change the direction by briefly releasing the pushbutton. With switching operation for children's rooms and snooze function.

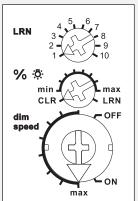
Switching for light alarm clocks: A wireless signal of a time clock which was taught-in accordingly starts the wake up function by switching on the light at the lowest brightness level and dims up slowly until the maximum level is reached. Dependent on the set dim speed the wake up time is between 30 and 60 minutes. The dimming process is stopped by tapping briefly. The contact of the timer must connect terminals +12V and LW at least 0.2 seconds.

Switching operation for children's rooms, when activated: If the light is switched on by holding down the pushbutton (universal switch or direction switch above), it starts at the lowest brightness level after approx. I second and dims up slowly as long as the pushbutton is held down. The last saved brightness level is not modified.

Snooze function, when activated (universal switch or direction switch below): With a double impulse the lighting is dimmed down from the current dimming position to the minimum brightness level and switched off. The current dimming position as well as the adjustable minimum brightness level determine the dimming time (max. = 60 minutes) which can be reduced as required. It can be switched off at any time by short-time control commands during the lighting is dimmed down.

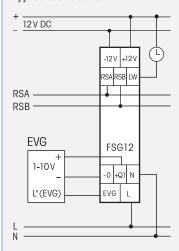
The LED below the upper function rotary switch performs during the teach-in process according to the operation manual. It shows control commands by short flickering during operation.

Function rotary switches



Standard setting ex works.

Typical connection



RS485 Bus Dimming Actuator – Constant Light Controller FKR12 for electronic ballast units 1-10 V



FKR12/1-10 V

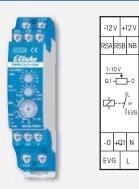












Dimming actuator 1 channel, 1 NO contact not potential free 600 VA and 1-10 V control output 40 mA. Only 0.9 watt standby loss.

Motion-dependent and brightness-dependent light control with the wireless motion/brightness sensor FBH.

Modular device for DIN-EN 60715 TH35 rail mounting. 1 module = 18 mm wide, 58 mm deep. State-of-the-art hybrid technology combines advantages of nonwearing electronic control with high capacity of special relays.

Zero passage switching to protect contacts.

The 12V DC supply voltage of the complete RS485 bus is mainly powered at 12W or 24W by a switch mode power supply unit FSNT12-12V that is only 1 or 2 pitch units wide. The power consumption of the 12V DC power supply is only 0.05 W.

The brightness level is stored on switch-off (memory).

In case of a power failure the switch position and the brightness stage are stored and may be switched on when the power supply is restored.

Connection to the Eltako RS485 bus, terminals RSA and RSB.

Up to a total of 128 actuators can be added in this way.

By using a bistable relay coil power loss and heating is avoided even in the on mode. After installation, wait for short automatic synchronisation before the switched consumer is connected to the mains.

Function of FKR12

The wireless constant light controller FKR12 receives its signals from one or several wireless sensors FBH via a wireless antenna module FAM12-12V DC and then controls the 1-10V output or switches the light on or off.

3 operation modes **BA** can be selected: **1 = fully automatic** (switch-on and switch-off is brightness and motion controlled), **2 = semi-automatic** (only switch-off is brightness and motion controlled) and **3 = switch-off is brightness controlled** (motion sensor is not active).

With one wireless pushbutton or wireless hand-held transmitter the automatic system can be overloaded to a preset value in order to dim the light for a beamer presentation, for example.

Several FBH can be taught-in in a FKR12. As long as one of the motion detection sensors FBH detects activity, the necessary lighting remains on and only after all FBHs report no activity for 1 minute does the adjustable time delay RV commence.

Only 1 FBH (Master) is used for the constant light control.

The FBHs can also be taught-in in several FKR12s. This not only allows an increase in the total switching capacity but also the set-up of zones with different brightness settings by setting different basic brightness values GH. Several independent FKR12 systems can be installed simultaneously.

To teach-in wireless pushbuttons and wireless hand-held transmitters, one rocker is taught-in as direction switches.

Tap the bottom part to switch the light off. Press the top or bottom to dim up or down. This shifts the control automatic towards brighter or darker. A double tap on the bottom part dims down to the taught-in value 'Beamer Presentation'. When the light is switched off and the top part is held down, the light is dimmed up from the lowest brightness level until the rocker is released. Resetting to automatic control is effected either by automatic light switch-off or by double-tapping the top direction switch.

The beamer value can additionally be taught-in in a further universal switch.

In addition to the beamer value the minimum brightness and the brightness for emergency lighting can be set and stored.

As long as the control input NB is connected to +12 V DC, it is dimmed to the set brightness for emergency lighting. All wireless signals are ignored then.

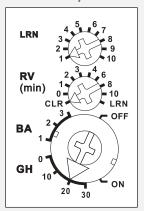
The upper rotary switch LRN is required for teach-in and for setting the base brightness. **The middle rotary switch RV** is set after teach-in to the required delay time from 0 to 10 minutes. There is also an additional 1 minute of FBH.

The base brightness **GH** dependent on use of the room is set **with the lower rotary switch**

1 (0+1), the largest value is 40 (30+10). The normal setting is approx. at 21. **The LED** below the upper function rotary switch performs during the teach-in process according to the operation manual. It shows control commands by short flickering during operation.

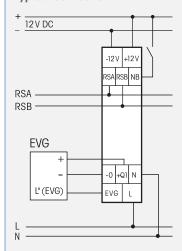
plus the upper rotary switch adding the adjusted values. The smallest settable value is

Function rotary switches



Standard setting ex works.

Typical connection



Connection example page **4**-0. Technical data, see page **T**-0. Housing for operating instructions GBA12 page **Z**-4.

RS485 bus dimming actuator constant light controller

EAN 4010312300923

53,80 €/pc.

RS485 Bus Dimming Actuator Constant Light Controller FKR12UD with Universal Dimmer Switch

FKR12UD-12V DC





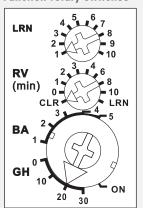






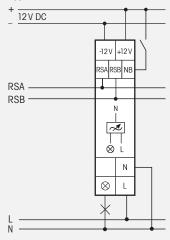


Function rotary switches



Standard setting ex works.

Typical connection



Universal dimming actuator 1 channel, Power MOSFET up to 500W, ESL up to 100W and LED up to 100W. Only 0.3 watt standby loss. Motion-dependent and brightness-dependent light control of dimmable energy saving lamps ESL and 230V LED lamps, incandescent and halogen lamps with the wireless motion/brightness sensor FBH or wireless outdoor brightness sensor FAH.

Modular device for DIN-EN 60715 TH35 rail mounting. 1 module = $18\,\mathrm{mm}$ wide, $58\,\mathrm{mm}$ deep. Universal dimmer switch for R, L and C loads up to 500 watts, depending on ventilation conditions. Automatic detection of load R+L or R+C. ESL and LED is manually settable. Dimmable energy saving lamps ESL up to 100 watts and dimmable $230\,\mathrm{V}$ LED lamps up to 100 watts.

Zero passage switching with soft ON and soft OFF to protect lamps.

The 12V DC supply voltage of the complete RS485 bus is mainly powered at 12W or 24W by a switch mode power supply unit FSNT12-12V that is only 1 or 2 pitch units wide. The power consumption of the 12V DC power supply is only 0.05W.

The brightness level is stored on switch-off (memory). In case of a power failure the switch position and the brightness stage are stored and may be switched on when the power supply is restored. Automatic electronic overload protection and overtemperature switch-off.

Connection to the Eltako RS485 bus, terminals RSA and RSB.

Up to a total of 128 actuators can be added in this way.

The wireless constant light controller FKR12UD receives its information from one or several wireless sensors FAH or FBH via a wireless antenna module FAM12-12V DC and then controls the output or switches the light on or off. Since incandescent lamps and halogen lamps have a large infrared percentage like daylight, these lamps can only be controlled by measuring the brightness outside the building by a wireless outdoor brightness sensor FAH acting as master. Motion detection takes place inside the room by a FBH acting as slave. Dimmable energy saving lamps and LED require only a FBH inside the room for brightness control and motion detection. Operating modes BA are taught-in: 1 = fully automatic ESL (for brightness-dependent and motion-dependent switch-off of ESL), 2 = semiautomatic ESL (only for brightness-dependent (only for brightness-dependent switch-off of ESL), 3 = switch-off of ESL is brightness-dependent (only for brightness-dependent switch-off of ESL, the motion sensor inside the FBH is then inactive), 4 = fully automatic incandescent/halogen lamps, 5 = semiautomatic incandescent/halogen lamps, 0 = fully automatic 230 V LED lamps (dimming curve 1), 10 = semiautomatic 230 V LED lamps (dimming curve 2).

With one wireless pushbutton or wireless hand-held transmitter the automatic system can be overloaded to a preset value in order to dim the light for a beamer presentation, for example. Several FBHs can be taught-in in a FKR12UD. As long as one of the motion detection sensors detects activity, the necessary lighting remains on and only after all FBHs report no activity for 1 minute does the adjustable time delay RV commence.

Only a FBH in operation mode BA 1, 2 or 3, otherwise a FAH provides constant light control. The FBHs and FAHs can also be taught-in in several FKR12s. This not only allows an increase in the total switching capacity but also the set-up of zones with different brightness settings by setting different basic brightness values GH. Several independent FKR12 systems can be installed simultaneously.

To teach-in wireless pushbuttons and wireless hand-held transmitters, one rocker is taught-in as direction switches. Tap the bottom part to switch the light off. Press the top or bottom to dim up or down. This shifts the control automatic towards brighter or darker. A double tap on the bottom part dims down to the taught-in value 'Beamer Presentation'. When the light is switched off and the top part is held down, the light is dimmed up from the lowest brightness level until the rocker is released. Resetting to automatic control is effected either by automatic light switch-off or by double-tapping the top direction switch.

The beamer brightness can additionally be taught-in in a further universal switch. In addition to the beamer brightness the minimum brightness and the brightness for emergency lighting can be set and stored. As long as the control input NB is connected to $\pm 12 \, \text{VDC}$, it is dimmed to the set brightness for emergency lighting. All wireless signals are ignored then.

The upper rotary switch LRN is required for teach-in and for setting the base brightness. The middle rotary switch RV is set after teach-in to the required delay time from 0 to 10 minutes, provided a FBH is available. There is also an additional 1 minute of FBH. The base brightness **GH** dependent on use of the room is set with the lower rotary switch plus the upper rotary switch adding the adjusted values. The smallest settable value is 1 (0+1), the largest value is 40 (30+10). The normal setting is approx. at 21. The LED below the upper function rotary switch performs during the teach-in process according to the operation manual. It shows control commands by short flickering during operation.

Connection example page 4-0. Technical data, see page T-0. Housing for operating instructions GBA12 page Z-4.

RS485 bus dimming actuator constant light controller

EAN 4010312300961

56,50 €/pc.

RS485 Bus Dimming Actuator – Light Scene Controller FLS12 for electronic ballast units 1-10 V



FLS12/1-10V

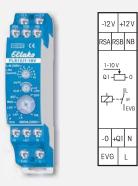












1-10 V control output 40 mA. Only 0.9 watt standby loss. Stores up to 40 light scenes for a fluorescent lamp group with 1-10 V ballasts.

Dimming actuator 1 channel, 1 NO contact not potential free 600 VA and

Also with light scene control by PC or wireless pushbuttons.

Modular device for DIN-EN 60715 TH35 rail mounting. 1 module = 18 mm wide, 58 mm deep. State-of-the-art hybrid technology combines advantages of nonwearing electronic control with high capacity of special relays.

Zero passage switching to protect contacts.

The 12V DC supply voltage of the complete RS485 bus is mainly powered at 12W or 24W by a switch mode power supply unit FSNT12-12V that is only 1 or 2 pitch units wide. The power consumption of the 12 V DC power supply is only 0.05 W.

The brightness level is stored on switch-off (memory).

In case of a power failure the switch position and the brightness stage are stored and may be switched on when the power supply is restored.

Connection to the Eltako RS485 bus, terminals RSA and RSB. Up to a total of 128 actuators can be added in this way.

By using a bistable relay coil power loss and heating is avoided even in the on mode.

After installation, wait for short automatic synchronisation before the switched consumer is connected to the mains.

Function of FLS12/1-10 V

All FLS12s in a room can be switched in series to obtain light scenes. The brightness of each lamp group is manually adjustable and the entire light scene can then be taught-in. Up to 40 light scenes are programmable. Up to 10 light scenes are retrievable sequentially with only one pushbutton. Up to 30 additional light scenes are directly retrievable with single assigned pushbuttons.

Each FLS12 or FLS12 groups can also be switched and dimmed individually with direction switches. There are a total of 35 inputs on each FLS12 for light scene and individual pushbuttons. Retrieving a light scene overrides an individual setting.

A wireless transmitter module FSM12 or FSM61 appropriately taught-in via a wireless antenna module FAM12-12 V DC has the same function as a light scene switch. Specific light scenes

Motion detection with taught-in wireless motion detector FBH. The light switches off automatically after 15 minutes provided no more motion is detected.

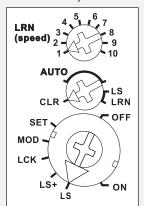
can then be retrieved with event-dependent or time-dependent control.

Light scenes on the PC are set and retrieved using the Wireless Visualisation and Control Software FVS. One or several FLS12 devices must be taught in on the PC as dimming switches with percentage brightness values.

Lights scenes with wireless pushbuttons are taught in on the FLS12 device. Either four sequentially retrievable brightness values (press up = next light scene, press down = previous light scene) and/or up to four brightness values taught in a light scene pushbutton with double

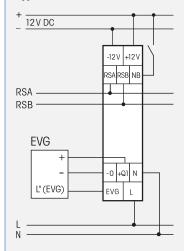
The LED below the upper function rotary switch performs during the teach-in process according to the operation manual. It shows control commands by short flickering during operation.

Function rotary switches



Standard setting ex works.

Typical connection



Connection example page 4-0. Technical data, see page T-0.

Housing for operating instructions GBA12 page Z-4.

FLS12/1-10V

RS485 bus dimming actuator light scene controller

Recommended retail prices excluding VAT.

RS485 Bus Dimming Actuator Light Scene Controller FLS12UD with Universal Dimmer Switch

FLS12UD-12V DC













ESL up to 100W and LED up to 100W. Only 0.3 watt standby loss. Stores up to 40 light scenes for a group of dimmable energy saving lamps ESL, incandescent lamps and halogen lamps. Also with light scene control by PC or wireless pushbuttons.

Universal dimming actuator 1 channel, Power MOSFET up to 500 W,

Modular device for DIN-EN 60715 TH35 rail mounting. 1 module = $18\,\mathrm{mm}$ wide, $58\,\mathrm{mm}$ deep. Universal dimmer switch for R, L and C loads up to 500 watts, depending on ventilation conditions. Automatic detection of load R+L or R+C. ESL and LED is manually settable. Dimmable energy saving lamps ESL up to 100 watts and dimmable 230V LED lamps up to 100 watts.

Zero passage switching with soft ON and soft OFF to protect lamps.

The 12V DC supply voltage of the complete RS485 bus is mainly powered at 12W or 24W by a switch mode power supply unit FSNT12-12V that is only 1 or 2 pitch units wide. The power consumption of the 12V DC power supply is only 0.05 W.

The brightness level is stored on switch-off (memory).

In case of a power failure the switch position and the brightness stage are stored and may be switched on when the power supply is restored.

Automatic electronic overload protection and overtemperature switch-off.

Connection to the Eltako RS485 bus, terminals RSA and RSB. Up to a total of 128 actuators can be added in this way.

Function of FLS12UD-12V DC

All FLS12s in a room can be switched in series to obtain light scenes. The brightness of each lamp group is manually adjustable and the entire light scene can then be taught-in. Up to 40 light scenes are programmable. Up to 10 light scenes are retrievable sequentially with only one pushbutton. Up to 30 additional light scenes are directly retrievable with single assigned pushbuttons.

Each FLS12 or FLS12 groups can also be switched and dimmed individually with direction switches. There are a total of 35 light scene and individual pushbuttons on each FLS12. Retrieving a light scene overrides an individual setting.

A wireless transmitter module FSM12 or FSM61 appropriately taught-in via a wireless antenna module FAM12-12 V DC has the same function as a light scene switch. Specific light scenes can then be retrieved with event-dependent or time-dependent control.

Position R,L,C is the setting for all load types except for ESL and LED. In particular for 230V glow and halogen lamps. The load type, inductive or capacitive, is detected automatically.

The setting ESL considers the special conditions regarding dimmable energy saving lamps: The starting operation is optimized and adapted to the dimming curve. In this setting the special switching operation for children's rooms is not possible and no wound (inductive) transformer must be dimmed.

The position LEDs take account of special conditions with dimmable 230V LED lamps: A number of different dimming curves are available. An updated list with dimming curve assignment for commercially available dimmable 230V LED lamps is ready for downloading at **www.eltako.com/dimming_curve/LED_gb.pdf.** In these settings no wound (inductive) transformer must be dimmed.

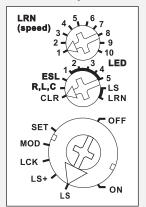
Light scenes on the PC are set and retrieved using the Wireless Visualisation and Control Software FVS. One or several FLS12UD devices must be taught in on the PC as dimming switches with percentage brightness values.

Lights scenes with wireless pushbuttons are taught in on the FLS12UD device. Either four sequentially retrievable brightness values (press up = next light scene, press down = previous light scene) and/or up to four brightness values taught in a light scene pushbutton with double rocker.

Motion detection with taught-in wireless motion detector FBH. The light switches off automatically after 15 minutes provided no more motion is detected.

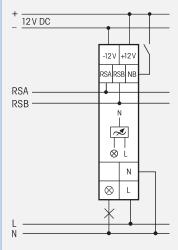
The LED below the upper function rotary switch performs during the teach-in process according to the operation manual. It shows control commands by short flickering during operation.

Function rotary switches



Standard setting ex works.

Typical connection



Connection example page **4**-0. Technical data, see page **T**-0. Housing for operating instructions GBA12 page **Z**-4.

RS485 bus universal dimming actuator light scene controller

EAN 4010312301104

57,60 €/pc.

RS485 Bus Switching Actuator Staircase Off-delay Timer FTN12



FTN12-12 V DC











1-channel switching actuator, 1 NO contact not potential free 16 A/250 V AC, incandescent lamps up to 2000 watts, off-delay with switch-off early warning and switchable pushbutton permanent light.

Also for energy saving lamps ESL up to 200 watts. Only 0.1 watt standby loss.

Modular device for DIN-EN 60715 TH35 rail mounting. 1 module = 18 mm wide, 58 mm deep.

Connection to the Eltako RS485 bus, terminals RSA and RSB.

Up to a total of 128 actuators can be added in this way.

Up to 35 pushbuttons each with 4 functions can be assigned to each channel, of which one or more central pushbuttons.

Switching voltage 230 V.

Zero passage switching to protect contacts and consumers.

The 12V DC supply voltage of the complete RS485 bus is mainly powered at 12W or 24W by a switch mode power supply unit FSNT12-12V that is only 1 or 2 pitch units wide. When the relay of the FTN12 is switched on, 0.3 watt are required.

After installation, wait for short automatic synchronisation before the switched consumer is connected to the mains.

If the function TLZ is set, the lighting is switched on again after a power failure provided the set time has not yet elapsed.

In addition to the bus control input, this staircase off-delay timer can also be controlled locally by a conventional 230V control switch. Glow lamp current up to 5 mA, dependent on the ignition voltage of the glow lamps.

The upper rotary switch LRN is required for teach-in. Then the off-delay 1 to 30 minutes can be set.

Use the middle rotary switch in position LRN to assign up to 35 switches and/or wireless motion/brightness sensors FBH via a wireless antenna module FAM12-12 V DC, of which one or several may be central control switches. The required function of this staircase off-delay timer can then be selected:

NLZ = off-delay timer with adjustable operate delay

TLZ = staircase time switch

ESL = staircase time switch for energy saving lamps ESL

+ ☼ = with pushbutton permanent light (only TLZ) + ☐ = with switch-off early warning (TLZ + ESL)

+ 1 = with pushbutton permanent light and switch-off early warning (TLZ + ESL)

If the permanent light function 3 is switched on, the function can be activated by pressing the pushbutton for longer than 1 second. This function switches off automatically after 60 minutes or by pressing the pushbutton for longer than 2 seconds.

If the switch-off early warning □ is switched on, the light starts to flicker approx. 30 seconds before time-out. This is repeated three times at decreasing time intervals. If both switch-off early warning and pushbutton permanent light □□ are switched on, switch-off early warning is activated before automatic switch-off of the permanent light.

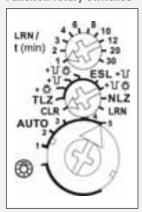
With the bottom rotary switch an operate delay (AV-time) can be set at NLZ. Setting AUTO 1 = 1 s, AUTO 2 = 30 s, AUTO 3 = 60 s, AUTO 4 = 90 s und AUTO 5 = 120 s (right stop). Also permanent light function can be set manually.

When teaching-in **wireless motion/brightness sensors FBH**, the switching threshold is defined on the last FBH taught-in to switch the light on/off depending on the brightness provided motion is detected. The off delay set on the FTN12 is prolonged by a setting of 1 minute fixed in the FBH.

When teaching-in **wireless window/door contacts FTK**, a NC or NO can be taught-in as required. Accordingly, the timing period starts when opening or closing the window or the door.

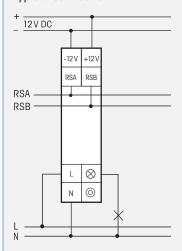
If **switches for permanent operation** are taught-in, for example wireless transmitter modules or FTS12EM, it is switched on when pressing and the time will be started when releasing. **The LED** below the upper function rotary switch performs during the teach-in process according to the operation manual. It shows control commands by short flickering during operation.

Function rotary switches



Standard setting ex works.

Typical connection



Connection example page **4**-0. Technical data, see page **T**-0. Housing for operating instructions GBA12 page **Z**-4.

RS485 bus switching actuator staircase off-delay timer

EAN 4010312300930

40,60 €/pc.

RS485 Bus Switching Actuator Multifunction Time Relay FMZ12

FMZ12-12 V DC











Switching actuator multifunction time relay with 10 functions, 1 CO contact potential free 10 A/250 V AC, incandescent lamps 2000 watts*, with DX technology. Only 0.3 watt standby loss.

Modular device for DIN-EN 60715 TH35 rail mounting.

1 module = 18mm wide, 58mm deep.

State-of-the-art hybrid technology combines advantages of nonwearing electronic control with high capacity of special relays.

Connection to the Eltako RS485 bus, terminals RSA and RSB. Up to a total of 128 actuators can be added in this way.

Up to 35 switches are assignable, of which may be one or several central control switches. In addition, via a wireless antenna module FAM12-12 V DC wireless window/door contact (FTK) with a NO or NC function with the window open. If a direction switch is taught-in, a function (e.g. TI) can be started using the top switch (START) and stopped with the bottom switch (STOP).

Patented Eltako Duplex technology allows you to switch normally potential free contacts in zero passage switching when 230 V A/C voltage 50 Hz is switched. This drastically reduces wear. To achieve this, simply connect the N conductor to the terminal (N) and L to K(L). This results in an additional standby consumption of only 0.1 watt.

The $12\,\text{V}$ DC supply voltage of the complete RS485 bus is mainly powered at $12\,\text{W}$ or $24\,\text{W}$ by a switch mode power supply unit FSNT12-12V that is only 1 or 2 pitch units wide. When energised, each of the relays of the FMZ12 requires a power consumption of only 0.3 watt. Time setting between 0.5 second and 20 hours.

Teach-in takes place **using the top and middle rotary switches** and then the time is set. T is the time base and xT the multiplier.

The function is selected using the bottom rotary switch:

RV = off delay

AV = operate delay

TI = clock generator starting with impulse

TP = clock gener ator starting with pause

IA = impulse controlled operate delay (e.g. automatic door opener)

EW = fleeting NO contact

AW = fleeting NC contact

ARV = operate and release delay

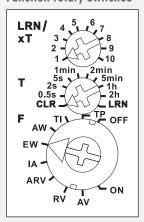
ON = Permanent ON

OFF = Permanent OFF

The LED below the upper function rotary switch performs during the teach-in process according to the operation manual. It shows control commands by short flickering during operation.

* The maximum load can be used starting at a delay time or clock cycle of 5 minutes. The maximum load will be reduced for shorter times as follows: up to 2 seconds 15%, up to 2 minutes 30%, up to 5 minutes 60%.

Function rotary switches



Standard setting ex works.

RS485 Bus Switching Actuator Heating/Cooling Relay FHK12



FHK12-12 V DC









нк

Function rotary switches

Standard setting ex works.



1+1 NO contacts potential free $4A/250\,V$ AC, 2 channels, with DX technology. Only 0.1 watt standby loss.

Modular device for DIN-EN 60715 TH35 rail mounting. 1 module = 18 mm wide, 58 mm deep. State-of-the-art hybrid technology combines advantages of nonwearing electronic control with high capacity of special relays.

Connection to the Eltako RS485 bus, terminals RSA and RSB.

Up to a total of 128 actuators can be added in this way.

Patented Eltako Duplex technology allows you to switch normally potential free contacts in zero passage switching when 230V A/C voltage 50 Hz is switched. This drastically reduces wear. To achieve this, simply connect the N conductor to the terminal (N) and L to 1(L) and/or 3(L). This results in an additional standby consumption of only 0.1 watt.

The 12V DC supply voltage of the complete RS485 bus is mainly powered at 12W or 24W by a switch mode power supply unit FSNT12-12V that is only 1 or 2 pitch units wide. When both relays of the FHK12 are switched on, 0.5 watts are required.

This heating/cooling relay assesses information about wireless temperature controllers or sensors. Possibly supplemented by window/door contacts, motion detectors, Hoppe window handles and wireless pushbuttons.

As an alternative to a wireless temperature controller, the temperature information on the set and actual values can also be obtained by the FVS software.

It is also possible to specify the set temperature via FVS software and thus limit the setting range of the wireless temperature controller.

Top rotary switch for adjustable hysteresis:

Left stop: lowest hysteresis 0.5°. **Middle position:** hysteresis 2.5°. **Right stop:** largest hysteresis 4.5°. Inbetween, divisions in steps of 0.5°.

Middle rotary switch for regulation types:

AUTO 1: With PWM control at T = 4 minutes. (PWM = pulse width modulation). (suitable for valves with thermoelectric valve drive)

AUTO 2: With PWM control at T = 15 minutes. (suitable for valves with motor-driven valve drive)

AUTO 3: With 2-point control.

Bottom rotary switch for operating modes:

H: heating mode (Contacts 1-2 and 3-4); K: cooling mode (Contacts 1-2 and 3-4);

HK: heating mode (Contact 3-4) and cooling mode (Contact 1-2)

Two-point control mode: The hysteresis rotary switch sets the required difference between the switch-on and switch-off temperatures. When the 'actual temperature >= reference temperature', the device is switched off. When the 'actual temperature <= (reference temperature – hysteresis)', the device is switched on. The signs are the opposite in cooling mode.

PWM control mode: The hysteresis rotary switch set the required temperature difference at which the device is switched on at 100%. When the 'actual temperature >= reference temperature', the device is switched off.

When the 'actual temperature <= (reference temperature – hysteresis)', the device is switched on at 100%. If the 'actual temperature' lies between the 'reference temperature – hysteresis' and the 'reference temperature', the device is switched on and off with a PWM in steps of 10% depending on the temperature difference. The lower the temperature difference, the shorter the switch-on time. As a result of the settability of the 100% value, the PWM can be adapted to the heater size and inertia. The signs are the opposite in cooling mode.

In heating mode, the **frost protection function** is always enabled. As soon as the actual temperature drops below 8°C, the temperature is controlled in the selected operating mode to 8°C.

If one or several windows are open, the output remains off **provided the window/door contacts FTK or Hoppe window handles** are taught-in. In heating mode, however, the frost protection remains enabled.

As long as all taught-in **motion detectors FBH** detect no motion, the device is switched to setback mode. In heating mode, the reference temperature is set back by 2°; in cooling mode, it is raised by 2°. As soon as a motion detector signals movement again, the device is switched to normal mode.

When a **wireless pushbutton FT4** is taught-in, the assignment of the 4 keys is assigned with the following fixed functions: Top right: Normal mode (can also be enabled by timer). Bottom right: Night setback mode by 4°; in cooling mode, raised by 4° (can also be enabled by timer). Top left: Setback mode by 2°, in cooling mode, raised by 2°. Bottom left: Off (in heating mode, frost protection enabled; in cooling mode permanent off). If the motion detector and wireless pushbutton are taught-in at the same time, the last telegram received is always the one that is valid. A motion detector therefore switches off a setback mode selected by wireless pushbutton when a movement is detected.

The LED below the upper function rotary switch performs during the teach-in process according to the operation manual. It shows control commands by short flickering during operation.

Connection example page 4-0. Technical data, see page T-0. Housing for operating instructions GBA12 page Z-4.

FHK12-12V DC

RS485 bus switching actuator

EAN 4010312302323

43,40 €/pc.

RS485 Bus Switching Actuator Heating Relay F4H12

F4H12-12V DC



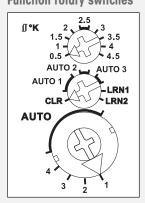








Function rotary switches



Standard setting ex works.

4-channel switching actuator, 1 NO contact per channel 4A/250V AC, potential free from the power supply, with DX technology. Only 0.1 watt standby loss.

Modular device for DIN-EN 60715 TH35 rail mounting. 1 module = 18 mm wide, 58 mm deep. State-of-the-art hybrid technology combines advantages of nonwearing electronic control with high capacity of special relays.

Connection to the Eltako RS485 bus, terminals RSA and RSB.

Up to a total of 128 actuators can be added in this way.

Patented Eltako Duplex technology allows you to switch normally potential free contacts in zero passage switching when 230 V A/C voltage 50 Hz is switched. This drastically reduces wear. To achieve this, simply connect the N conductor to the terminal (N) and L to K(L). This results in an additional standby consumption of only 0.1 watt.

The 12V DC supply voltage of the complete RS485 bus is mainly powered at 12W or 24W by a switch mode power supply unit FSNT12-12V that is only 1 or 2 pitch units wide. When all 4 relays of the F4H12 are switched on, 1 watt is required.

This heating relay evaluates the information of each wireless temperature controller via a wireless antenna module FAM12-12 V DC for each channel. If required, this information may be supplemented by a window/door contact or a Hoppe window handle.

As an alternative to a wireless temperature controller, the temperature information on the set and actual values can also be obtained by the FVS software.

Top rotary switch for adjustable hysteresis:

Left stop: lowest hysteresis 0.5°. **Right stop:** largest hysteresis 4.5°.

Inbetween, divisions in steps of 0.5°.

Middle rotary switch for regulation types:

AUTO 1: With PWM control at T = 4 minutes. (PWM = pulse width modulation). (suitable for valves with thermoelectric valve drive)

AUTO 2: With PWM control at T = 15 minutes. (suitable for valves with motor-driven valve drive)

AUTO 3: With 2-point control.

The bottom rotary switch LRN is required for teach-in and is set to AUTO in operating mode.

Two-point control mode: The hysteresis rotary switch sets the required difference between the switch-on and switch-off temperatures. When the 'actual temperature >= reference temperature', the device is switched off.

When the 'actual temperature <= (reference temperature - hysteresis)', the device is switched on.

PWM control mode: The hysteresis rotary switch set the required temperature difference at which the device is switched on at 100%. When the 'actual temperature' >= reference temperature', the device is switched off.

When the 'actual temperature <= (reference temperature – hysteresis)', the device is switched on at 100%. If the 'actual temperature' lies between the 'reference temperature – hysteresis' and the 'reference temperature', the device is switched on and off with a PWM in steps of 10% depending on the temperature difference. The lower the temperature difference, the shorter the switch-on time. As a result of the settability of the 100% value, the PWM can be adapted to the heater size and inertia.

The **frost protection function** is always enabled. As soon as the actual temperature drops below 8°C, the temperature is controlled in the selected operating mode to 8°C.

If a window/door contact FTK or a Hoppe window handle was taught-in to a channel, the channel is switched off as long as the window is open. However, the frost protection remains enabled.

Wireless switches FT4 can be taught-in for each channel or for many channels in a group. The assignment of the 4 keys is assigned with the following fixed functions: Top right: Normal mode, can also be enabled by timer. Bottom right: Night setback mode by 4°. Top left: Setback mode by 2°. Bottom left: Off (frost protection stays enabled).

The LED below the upper function rotary switch performs during the teach-in process according to the operation manual. It shows control commands by short flickering during operation.

Connection example page 4-0. Technical data, see page T-0. Housing for operating instructions GBA12 page Z-4.

F4H12-12V DC

RS485 bus switching actuator

EAN 4010312304280

51,90 €/pc.

RS485 Bus Switching Actuator Ventilation Relay F4L12

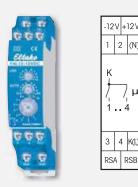


F4L12-12 V DC









4-channel switching actuator, 1 NO contact per channel 4A/250V AC, potential free from the power supply, with DX technology. Only 0.2 watt standby loss.

Modular device for DIN-EN 60715 TH35 rail mounting. 1 module = $18\,\mathrm{mm}$ wide, $58\,\mathrm{mm}$ deep. State-of-the-art hybrid technology combines advantages of nonwearing electronic control with high capacity of special relays.

Connection to the Eltako RS485 bus, terminals RSA and RSB.

Up to a total of 128 actuators can be added in this way.

Patented Eltako Duplex technology allows you to switch normally potential free contacts in zero passage switching when 230 V A/C voltage 50 Hz is switched. This drastically reduces wear. To achieve this, simply connect the N conductor to the terminal (N) and L to K(L). This results in an additional standby consumption of only 0.1 watt.

The 12 V DC supply voltage of the complete RS485 bus is mainly powered at 12 W or 24 W by a switch mode power supply unit FSNT12-12 V that is only 1 or 2 pitch units wide. When all 3 relays of the F4L12 are switched on, 0.7 watt are required.

The top rotary switch is required for teach-in.

Middle rotary switch for operating modes:

AUTO1: The 4 contact surfaces are assigned 'exclusively' when a wireless pushbutton with double rocker is taught-in as follows: top left closes Contact 1; bottom left closes Contact 2; top right closes Contact 3; bottom right closes Contact 4 (switch-off function). All other contacts are opened. Wireless window/door contact FTK or Hoppe window handles closes Contact 4 'exclusively' when a window is opened. A wireless transmitter module can also be taught-in to close Contact 4 'exclusively'.

AUTO2: Same as AUTO1, but a wireless pushbutton with double rocker is assigned 'adding': top left closes Contact 1; bottom left closes Contacts 1 and 2; top right closes Contacts 1, 2 and 3; bottom right closes Contact 4 (switch-off function). All other contacts are opened.

AUTO3: Activating with wireless CO₂ sensor. The contacts close 'exclusively'.

AUTO4: Same as AUTO3, but activated by the wireless humidity sensor.

AUTO5: Same as AUTO3, but activated by the wireless temperature sensor.

AUTO6: Same as AUTO3, but the contacts close 'adding'.

AUTO7: Same as AUTO4, but the contacts close 'adding'.

AUTO8: Same as AUTO5, but the contacts close 'adding'.

The bottom and top rotary switches are used when sensor activation AUTO3 to AUTO8 are **in operation** to set the switch-on threshold for Contact 1 and to set the additional value at which Contacts 2 and/or 3 close.

Overview of switch-on thresholds (lower rotary switch):

CO₂ (ppm): 1 = 700 ppm; 2 = 800 ppm; 3 = 900 ppm; 4 = 1000 ppm; 5 = 1200 ppm; 6 = 1400 ppm; 7 = 1600 ppm; 8 = 1800 ppm, 9 = 2000 ppm and 10 = 2200 ppm.

Humidity (%): 1 = 10%, 2 = 20%, ... 10 = 100%.

Temperature (°C): 1 = 20°C, 2 = 22°C, 3 = 24°C, ... 10 = 38°C.

Overview of addition values (upper rotary switch):

CO₂ difference: 1 = 50 ppm, 2 = 100 ppm, 3 = 150 ppm, ... 10 = 500 ppm.

Fixed hysteresis: 50ppm.

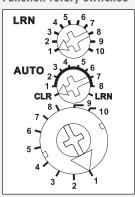
Humidity difference: 1 = 5%, 2 = 10%, 3 = 15%, ... 10 = 50%. Fixed hysteresis: 5%.

Temperature difference (K): 1 = 1 K, 2 = 2 K, 3 = 3 K, ... 10 = 10 K.

Fixed hysteresis: 1 K.

The LED below the upper function rotary switch performs during the teach-in process according to the operation manual. It shows control commands by short flickering during operation.

Function rotary switches



Standard setting ex works.

Connection example page 4-0. Technical data, see page T-0. Housing for operating instructions GBA12 page Z-4.

F4L12-12V DC

RS485 bus switching actuator

EAN 4010312304761

51,90 €/pc.

RS485 Bus Switching Actuator Mains Disconnection Relay FFR12

FFR12-12 V DC











16 A/250 V AC, incandescent lamps 2000 watts. Only 0.1 watt standby loss.Modular device for DIN-EN 60715 TH35 rail mounting.

1 module = 18 mm wide, 58 mm deep.

Connection to the Eltako RS485 bus, terminals RSA and RSB. Up to a total of 128 actuators can be added in this way.

State-of-the-art hybrid technology combines advantages of nonwearing electronic control with high capacity of special relays.

Switching actuator mains disconnection relay, 1+1 NO contacts potential free

The mains disconnection relay FFR12-12 V DC interrupts the power supply of 1 or 2 circuits and prevents interfering electromagnetic fields.

To enable zero passage switching in patented Eltako Duplex technology, L must normally be connected to K(L) and N to (N). N may not be connected if a contactor is switched downstream for the purpose of increasing performance.

The 12V DC supply voltage of the complete RS485 bus is mainly powered at 12W or 24W by a switch mode power supply unit FSNT12-12V that is only 1 or 2 pitch units wide. When both relays of the FFR12 are switched on, 0.5 watts are required.

Maximum current as the sum of both contacts 16A at 230V.

This mains disconnection relay is switched in the circuit distributor downstream of the 16A circuit breaker which protects up to two circuits in the room to be protected by mains disconnection. For example, one circuit for the lighting and one circuit for the socket outlets.

The circuits are enabled and disabled manually using one or several stationary wireless pushbuttons or hand-held wireless transmitters. Contact L-2 can store a switch-off delay of 10 to 90 minutes

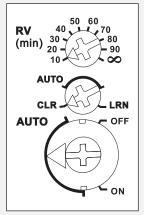
If a wireless pushbutton rocker is assigned to 'central ON' for the mains disconnection relay and to 'ON' for the lighting, the mains disconnection relay is automatically cancelled when the lighting is switched on.

If a wireless pushbutton rocker, e.g. a bedside light, is assigned with 'OFF' for the lamp and 'central OFF' for the mains disconnection relay, the mains disconnection is automatically activated when the bedside lamp is switched off.

10 teach-in positions of the FFR12 plus the switch-off delay give the user plenty of scope to define the settings the mains disconnection relay.

The LED below the upper function rotary switch performs during the teach-in process according to the operation manual. It shows control commands by short flickering during operation.

Function rotary switches



Standard setting ex works.

RS485 Bus Switching Actuator – Time Relay for Card Switch or Smoke Alarm FZK12



FZK12-12 V DC













1-channel switching actuator, 1 NO contact not potential free 16A/250V AC, incandescent lamps up to 2000 watts.

Off-delay and response lag are adjustable. Only 0.1 watt standby loss.

Modular device for DIN-EN 60715 TH35 rail mounting.

1 module = 18 mm wide, 58 mm deep.

Connection to the Eltako RS485 bus, terminals RSA and RSB. Up to a total of 128 actuators can be added in this way.

Up to 35 pushbuttons each with 4 functions can be assigned to each channel, of which one or more central pushbuttons.

Switching voltage 230 V.

Zero passage switching to protect contacts and consumers.

The 12V DC supply voltage of the complete RS485 bus is mainly powered at 12W or 24W by a switch mode power supply unit FSNT12-12V that is only 1 or 2 pitch units wide. The power consumption of the 12V DC power supply is only 0.05W.

The upper rotary switch AV is required for teach-in. Then set here the response lag time AV between 0 and 120 seconds for Contact L-1.

The middle rotary switch is required for teach-in. Then define here the response after a power failure. In position AUTO1 the switch position is retained; in position AUTO2, the device is switched off according to a defined procedure.

Use the bottom rotary switch RV to set the time delay time RV between 0 and 120 seconds for Contact L-1.

The AV and RV times permit the simple control of lights and air conditioning systems with the wireless card switches FKF and FKC.

The response lag AV starts as soon as the hotel card/key card is inserted in the wireless card-operated door lock FKF and the time delay RV starts after the card is removed.

In addition to the wireless card switch FKF, wireless window/door contacts FTK, Hoppe window handles and motion/brightness sensor FBH can also be taught in.

Opening a monitored window also starts the RV time. When the RV time expires, Contact L-1 opens. Closing all monitored windows starts the AV time. When the AV time expires, Contact L-1 closes.

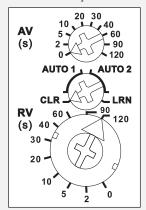
When motion/brightness sensors are used and the hotel card/key card is inserted, Contact L-1 closes immediately motion is detected. If no motion is detected for 15 minutes the contact opens, even if the hotel card/key card is inserted.

Several wireless smoke alarms FRW-ws are logically linked with this switch actuator time relay so that the RV time only starts after all FRW-ws devices have signalled alarm end.

Card switches and smoke alarms can not be operated together with an FZK device.

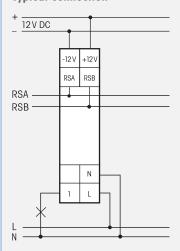
The LED below the upper function rotary switch performs during the teach-in process according to the operation manual. It shows control commands by short flickering during operation.

Function rotary switches



Standard setting ex works.

Typical connection



Connection example page **4**-0. Technical data, see page **T**-0. Housing for operating instructions GBA12 page **Z**-4.

RS485 bus switching actuator time relay for card switch

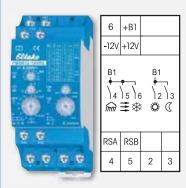
RS485 Bus Switching Actuator Multifunction Sensor Relay FMSR12



FMSR12-12 V DC







Multifunction sensor relay for brightness, twilight, wind, rain and frost, 5 OptoMOS semiconductor outputs 50 mA/8..230 V UC. Only 0.2 watt standby loss.

Modular device for DIN-EN 60715 TH35 rail mounting.

2 modules = 36 mm wide, 58 mm deep.

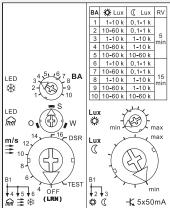
Connection to the Eltako RS485 Bus, terminals RSA and RSB.

Up to a total of 128 actuators can be added in this way.

The multifunction sensor relay FMSR12 evaluates the telegrams of the wireless weather data transmitter module FWS61 and sends control commands to the downstream actuators EGS12Z or EGS12Z2 depending on the setting of the rotary switches on the front panel.

The OptoMOS semiconductor outputs switch the voltage present on the universal voltage input terminal +B1. The $12\,V$ DC supply voltage of the complete RS485 bus is mainly powered at $12\,W$ or $24\,W$ by a switch mode power supply unit FSNT12-12 $\,V$ that is only 1 or 2 pitch units wide.

Function rotary switches



Standard setting ex works.

Function rotary switches

BA = Setting the operating modes 1 to 10 from the table. 2 delay times RD - for wind and twilight - each in connection with 5 brightness ranges for light and twilight. The LED behind the rotary switch indicates frost at an outdoor temperature below 2°C, at this point output 6 is closed. This output opens again as soon as the temperature is above 3°C for 5 minutes.

O-S-W = If the multi sensor MS is aligned towards the south, the weighting for light and twilight can be shifted towards the east or west. If the MS is mounted in a different direction, the desired point of the compass can be set using this rotary switch. A LED behind the rotary switch indicates **rain detection**, at this point output 4 is closed. Once the rain sensor surface dries out - assisted by a heating unit - contact 4 opens immediately. This is automatically followed by a 2-second pulse on output 2 if the sun signal is present at that moment.

m/s = This rotary switch is used to select the wind speed in metres per second at which the **wind signal** is triggered. This closes output 5. This is indicated by the LED behind the rotary switch. Opening takes place after the delay time RD which has been set, during which the LED flashes. This is automatically followed by a 2-second pulse on output 2 if the sun signal is present at that moment.

DSR = In this position of the wind rotary switch the FMSR12 operates like a twilight sensor relay. The twilight signal as described under **Lux** (is then continuously present at output 3 as long as the set twilight value is undershot. Output 3 opens with a delay of 5 minutes if the set twilight value is exceeded. The outputs 4 (rain) and 6 (frost) remains active as described there. Output 5 (wind) likewise remains active, but the wind signal is triggered at 10m/s.

TEST = As long as 'TEST' remains switched on, each switchover from the 'OFF' position to the 'TEST' position activates the outputs 2 to 6 in ascending order.

OFF = In the 'OFF' position the FMSR12 is ready for teach-in.

Lux \$\cong = \text{This rotary switch is used to set the brightness at which the **sun signal** is triggered as a 2-second pulse on output 2 after 20 seconds. The LED behind the rotary switch indicates when the brightness value is exceeded.

Lux (= This rotary switch is used for setting the brightness at which the 2-second twilight signal is triggered at output 3 after the set delay time RD when the value is undershot. This is indicated by the LED behind the rotary switch. It flashes during the delay time. If the twilight switching threshold is set to the same level or higher than the sun switching threshold, then the sun switching threshold is raised internally above the twilight switching threshold.

Light change compensation: If there was a continuous change from sun to rain clouds, the result would be a nervous opening and closing of shading elements. This is prevented by using light change compensation.

Telegram monitoring: The weather data transmitter module FWS61 sends a status telegram at least every 10 minutes. If the telegram is not sent twice in a row, an alarm is tripped: The wind output 5 is closed for 2 second in order to protect any awnings or windows which may be connected here. This pulse is repeated every hour. Three LEDs flash at a fast rate if telegram transmission is interrupted. When a telegram is again received, the alarm stops automatically.

Connection example page 4-0. Technical data, see page T-0. Housing for operating instructions GBA12 page Z-4.

FMSR12-12 V DC RS485 bus sensor relay EAN 4010312311172 **68,40 €/pc.**

Switching Actuators and Dimming Actuators for installation





Wheless actuator impaise swhich with thiegr. Telay fation of 1 skotter and	
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Wireless Actuator Impulse Switch with integr. relay function FSR61NP

FSR61NP-230V













Function rotary switches

Standard setting ex works.

Typical connection



1 NO contact not potential free 10 A/250 V AC, incandescent lamps up to 2000 watts, off delay with switch-off early warning and switchable push-button permanent light. Bidirectional wireless and with repeater function. Only 0.7 watt standby loss.

For installation. 45 mm long, 55 mm wide, 33 mm deep. Switching voltage and control voltage local 230 V.

This wireless actuator features state-of-the-art hybrid technology that we developed: we combined the wear-free receiver and evaluation electronics and a bistable relay with zero passage switching.

In addition to the wireless control input via an internal antenna, this wireless actuator can also be controlled locally by a conventional 230V control switch if fitted previously. Glow lamp current is not permitted.

Starting in production week 14/2011 with **bidirectional wireless**; in addition, a **repeater** function can be switched in. Every change in state and incoming central command telegrams are confirmed by a wireless telegram. This wireless telegram can be taught-in in other actuators, in the FVS software and in FUA55 universal displays.

Scene control: several FSR61s can be switched on or off in a scene by one of the four control signals of a double-rocker pushbutton taught-in as scene pushbutton.

With the top rotary switch in the setting LRN up to 35 wireless pushbuttons can be assigned, of which one or more central control pushbuttons. In addition wireless window/door contacts with the function N/O contact or N/C contact while the window is open, wireless outdoor brightness sensors FAH and wireless motion/brightness sensors FBH. The required function of the impulse switch with integrated relay function can then be selected:

ER = switching relay

ESV = impulse switch. Possibly with off delay, then:

+ 🖰 = ESV with pushbutton permanent light

 $+ \Box \Gamma$ = ESV with switch-off early warning

+ 1 = ESV with pushbutton permanent light and switch-off early warning

If the permanent light function ? is switched on, the function can be activated by pressing the pushbutton for longer than 1 second. This function switches off automatically after 2 hours or by pressing the pushbutton.

If both switch-off early warning and pushbutton permanent light T. are switched on, switch-off early warning is activated before automatic switch-off of the permanent light.

The function ESV **on the bottom rotary switch** sets the off delay from 2 to 120 minutes. In setting ∞ normal impulse switch function ES without off delay, without pushbutton permanent light and without switch-off early warning.

In setting ER = switching relay of the other rotary switch, this 2nd rotary switch fulfils a safety and power saving function in the settings except ∞ . If the switch-off command is not recognised, e.g. since the pushbutton is jammed or it was pressed too quickly, the relay switches off automatically on expiry of a time adjustable between 2 and 120 seconds. When a FTK is taught-in, this time function is turned off.

If there are **open flames**, waste air fans may only be switched on if the windows are open to ensure oxygen supply. See combination FSR61NP-230V+FTK below.

Twilight switch with taught-in wireless outdoor brightness sensor FAH and then in function setting ESV. In time setting 120 the contact opens with a delay of 4 minutes if the brightness level is sufficient. In time setting ∞ the contact opens instantly. The local and central push-button control is still possible.

Motion detection with taught-in wireless motion detector FBH in function setting ER. The device switches on when motion is detected. If no more motion is detected, the contact opens after the time delay setting t = 2 to 255 seconds (Position ∞).

Outdoor brightness sensor and motion detector can be used together with function setting ER to evaluate motion only in darkness. If the FAH detects brightness, the contact opens immediately.

When teaching-in, the switching threshold is also taught-in: between break of twilight and complete darkness.

The LED performs during the teach-in process according to the operation manual.

It shows wireless control commands by short flickering during operation.

Technical data page T-1.

FSR61NP-230V

Toomhour data page 1 1.

Wireless actuator

Impulse switch with integr. relay function

EAN 4010312300190

73,60 €/pc.

Wireless Actuator – Impulse Switch with integr. relay function FSR61NP with Wireless Sensor FTK-rw



FSR61NP-230V+FTK-rw













For the control of extractor hoods etc.

1 NO contact not potential free 10 A/250 V AC. Bidirectional wireless and with repeater function. Only 0.7 watt standby loss.

For installation. 45 mm long, 55 mm wide, 33 mm deep.

Switching voltage and control voltage local 230V.

This wireless actuator features state-of-the-art hybrid technology that we developed: we combined the wear-free receiver and evaluation electronics and a bistable relay with zero passage switching.

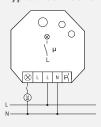
By using a bistable relay coil power loss and heating is avoided even in the on mode. After installation, wait for short automatic synchronisation before the switched consumer is connected to the mains.

Starting in production week 14/2011 with **bidirectional wireless**; in addition, a **repeater** function can be switched in. Every change in state and incoming central command telegrams are confirmed by a wireless telegram. This wireless telegram can be t aught-in in other actuators, in the FVS software and in FUA55 universal displays.

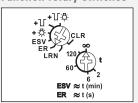
The rotary switches are set to the correct positions ER and ∞ at the factory. The FTK-rw is already taught-in to the FSR61NP-230 V.

If a repeated teach-in is necessary after integration in a larger wireless system, please refer to the operating manuals of the FSR61NP-230V and the FTK-rw. They are available on the www.eltako.com website under 'Operating instructions'.

Typical connection



Function rotary switches



Standard setting ex works.



FTK-rw

Wireless window/door contact 75 x 25 x 12 mm, pure white

The batteryless window/door contact FTK-rw powers itself from a solar cell and stores the energy for night operation.

A signal is transmitted when the contact is opened or closed.

Every 15 minutes a signal indicating the current status is also transmitted.

Adhesive foil mounting. Protection class IP54, therefore suitable for outdoor mounting.

Window/door contact dimensions lxwxh: 75x25x12mm;

magnet dimensions Ixwxh: 37x10x6mm.

Solar-powered energy accumulator.

For testing porposes or for operating the device, the FTK-rw needs to be charged several hours at daylight or at artificial light.

Technical data page **T**-1.

Wireless Actuator Impulse Switch with integrated relay function FSR61/8-24 V UC

FSR61/8-24 V UC





For installation. 45 mm long, 55 mm wide, 33 mm deep.

Supply voltage and if necessary control voltage locally 8 to 24 V UC.

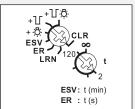




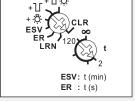


1 NO contact potential free 10 A/250 V AC, incandescent lamps up to 2000 watts, off delay with switch-off early warning and switchable pushbutton permanent light. Bidirectional wireless and with repeater function. Only 0.3-0.8 watt standby loss.

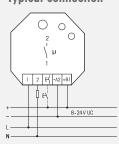
Function rotary switches



Standard setting ex works.



Typical connection



we combined the wear-free receiver and evaluation electronics with a bistable relay. In addition to the wireless control input via an internal antenna, this wireless actuator can also be controlled locally by a conventional control switch if fitted previously. Glow lamp current is not permitted.

This wireless actuator features state-of-the-art hybrid technology that we developed:

Starting in production week 14/2011 with **bidirectional wireless**; in addition, a **repeater** function can be switched in. Every change in state and incoming central command telegrams are confirmed by a wireless telegram. This wireless telegram can be taught-in in other actuators, in the FVS software and in FUA55 universal displays.

Scene control: several FSR61s can be switched on or off in a scene by one of the four control signals of a double-rocker pushbutton taught-in as scene pushbutton.

With the top rotary switch in the setting LRN up to 35 wireless pushbuttons can be assigned, of which one or more central control pushbuttons. In addition wireless window/door contacts with the function N/O contact or N/C contact while the window is open, wireless outdoor brightness sensors FAH and wireless motion/brightness sensors FBH. The required function of the impulse switch with integrated relay function can then be selected:

ER = switching relay

ESV = impulse switch. Possibly with off delay, then:

+ : = ESV with pushbutton permanent light

+ T = ESV with switch-off early warning

+ T = ESV with pushbutton permanent light and switch-off early warning

If the permanent light function \Im is switched on, the function can be activated by pressing the pushbutton for longer than 1 second. This function switches off automatically after 2 hours or by pressing the pushbutton.

If the switch-off early warning \(\square\) is switched on, the light starts to flicker approx. 30 seconds before time-out. This is repeated three times at decreasing time intervals.

If both switch-off early warning and pushbutton permanent light T\$\tilde{\Pi}\$ are switched on, switch-off early warning is activated before automatic switch-off of the permanent light.

The function ESV on the bottom rotary switch sets the off delay from 2 to 120 minutes. In setting ∞ normal impulse switch function ES without off delay, without pushbutton permanent light and without switch-off early warning.

In setting ER = switching relay of the other rotary switch, this 2nd rotary switch fulfils a safety and power saving function in the settings except ∞ . If the switch-off command is not recognised, e.g. since the pushbutton is jammed or it was pressed too quickly, the relay switches off automatically on expiry of a time adjustable between 2 and 120 seconds. When a FTK is taught-in,

Twilight switch with taught-in wireless outdoor brightness sensor FAH and then in function setting ESV. In time setting 120 the contact opens with a delay of 4 minutes if the brightness level is sufficient. In time setting ∞ the contact opens instantly. The local and central pushbutton control is still possible.

Motion detection with taught-in wireless motion detector FBH in function setting ER. The device switches on when motion is detected. If no more motion is detected, the contact opens after the time delay setting t = 2 to 255 seconds (Position ∞).

Outdoor brightness sensor and motion detector can be used together with function setting ER to evaluate motion only in darkness. If the FAH detects brightness, the contact opens immediately.

When teaching-in, the switching threshold is also taught-in: between break of twilight and complete darkness.

The LED performs during the teach-in process according to the operation manual. It shows wireless control commands by short flickering during operation.

Technical data page T-1.

Wireless actuator FSR61/8-24V UC

Impulse switch with integr. relay function

EAN 4010312301357

70,50 €/pc.

Wireless Actuator – Impulse Switch with integrated relay function FSR61-230 V



FSR61-230 V





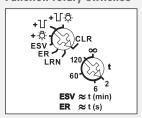






1 NO contact potential free 10A/250V AC, incandescent lamps up to 2000 watts, off delay with switch-off early warning and switchable push-button permanent light. Bidirectional wireless and with repeater function. Only 0.6 watt standby loss.

Function rotary switches



Standard setting ex works.

C

Typical connection

For installation. 45 mm long, 55 mm wide, 33 mm deep.

Supply voltage and if necessary control voltage locally 230 V.

This wireless actuator features state-of-the-art hybrid technology that we developed: we combined the wear-free receiver and evaluation electronics with a bistable relay.

In addition to the wireless control input via an internal antenna, this universal impulse switching relay can also be controlled locally by a conventional control switch if fitted previously. Glow lamp current is not permitted.

Starting in production week 14/2011 with **bidirectional wireless**; in addition, a **repeater** function can be switched in. Every change in state and incoming central command telegrams are confirmed by a wireless telegram. This wireless telegram can be taught-in in other actuators, in the FVS software and in FUA55 universal displays.

Scene control: several FSR61s can be switched on or off in a scene by one of the four control signals of a double-rocker pushbutton taught-in as scene pushbutton.

With the top rotary switch in the setting LRN up to 35 wireless pushbuttons can be assigned, of which one or more central control pushbuttons. In addition wireless window/door contacts with the function N/O contact or N/C contact while the window is open, wireless outdoor brightness sensors FAH and wireless motion/brightness sensors FBH. The required function of the impulse switch with integrated relay function can then be selected:

ER = switching relay

ESV = impulse switch. Possibly with off delay, then:

+ 5 = ESV with pushbutton permanent light

 $+ \Box$ = ESV with switch-off early warning

+ T = ESV with pushbutton permanent light and switch-off early warning

If the permanent light function \circlearrowleft is switched on, the function can be activated by pressing the pushbutton for longer than 1 second. This function switches off automatically after 2 hours or by pressing the pushbutton.

If both switch-off early warning and pushbutton permanent light _\Gamma\ are switched on, switch-off early warning is activated before automatic switch-off of the permanent light.

The function ESV **on the bottom rotary switch** sets the off delay from 2 to 120 minutes. In setting ∞ normal impulse switch function ES without off delay, without pushbutton permanent light and without switch-off early warning.

In setting ER = switching relay of the other rotary switch, this 2nd rotary switch fulfils a safety and power saving function in the settings except ∞ . If the switch-off command is not recognised, e.g. since the pushbutton is jammed or it was pressed too quickly, the relay switches off automatically on expiry of a time adjustable between 2 and 120 seconds. When a FTK is taught-in, this time function is turned off.

Twilight switch with taught-in wireless outdoor brightness sensor FAH and then in function setting ESV. In time setting 120 the contact opens with a delay of 4 minutes if the brightness level is sufficient. In time setting ∞ the contact opens instantly. The local and central pushbutton control is still possible.

Motion detection with taught-in wireless motion detector FBH in function setting ER. The device switches on when motion is detected. If no more motion is detected, the contact opens after the time delay setting t = 2 to 255 seconds (Position ∞).

Outdoor brightness sensor and motion detector can be used together with function setting ER to evaluate motion only in darkness. If the FAH detects brightness, the contact opens immediately.

When teaching-in, the switching threshold is also taught-in: between break of twilight and complete darkness.

The LED performs during the teach-in process according to the operation manual. It shows wireless control commands by short flickering during operation.

Technical data page T-1.

FSR61-230V

Wireless actuator

Impulse switch with integr. relay function

EAN 4010312301531

70,50 €/pc.

Wireless Actuator – Impulse Switch with integrated relay function FSR61LN-230V for bipolar switching of L and N



FSR61LN-230V











Function rotary switches

ER ≈ t (s)

Standard setting ex works.

Typical connection

+Л +<u>Д ф</u>



2 NO contacts for bipolar switching of L and N 10A/250V AC, incandescent lamps up to 2000 watts, off delay with switch-off early warning and switchable pushbutton permanent light. Bidirectional wireless and with repeater function. Only 0.7 watt standby loss.

For installation. 45 mm long, 55 mm wide, 33 mm deep. Switching voltage and control voltage local 230 V.

This wireless actuator features state-of-the-art hybrid technology that we developed: we combined the wear-free receiver and evaluation electronics with a bistable relay with zero passage switching.

In addition to the wireless control input via an internal antenna, this universal impulse switching relay can also be controlled locally by a conventional control switch if fitted previously. Glow lamp current is not permitted.

With **bidirectional wireless**; in addition, a **repeater** function can be switched in. Every change in state and incoming central command telegrams are confirmed by a wireless telegram. This wireless telegram can be taught-in in other actuators, in the FVS software and in FUA55 universal displays.

Scene control: several FSR61LNs can be switched on or off in a scene by one of the four control signals of a double-rocker pushbutton taught-in as scene pushbutton.

With the top rotary switch in the setting LRN up to 35 wireless pushbuttons can be assigned, of which one or more central control pushbuttons. In addition wireless window/door contacts with the function N/O contact or N/C contact while the window is open. The required function of the impulse switch with integrated relay function can then be selected:

ER = switching relay

ESV = impulse switch. Possibly with off delay, then:

+ 🖰 = ESV with pushbutton permanent light

 $+ \coprod = ESV$ with switch-off early warning

+ 15 = ESV with pushbutton permanent light and switch-off early warning

If the permanent light function \circlearrowleft is switched on, the function can be activated by pressing the pushbutton for longer than 1 second. This function switches off automatically after 2 hours or by pressing the pushbutton.

If both switch-off early warning and pushbutton permanent light \(\subseteq\) are switched on, switch-off early warning is activated before automatic switch-off of the permanent light.

The function ESV **on the bottom rotary switch** sets the off delay from 2 to 120 minutes. In setting ∞ normal impulse switch function ES without off delay, without pushbutton permanent light and without switch-off early warning.

In setting ER = switching relay of the other rotary switch, this 2nd rotary switch fulfils a safety and power saving function in the settings except ∞ . If the switch-off command is not recognised, e.g. since the pushbutton is jammed or it was pressed too quickly, the relay switches off automatically on expiry of a time adjustable between 2 and 120 seconds. When a FTK is taught-in, this time function is turned off

Twilight switch with taught-in wireless outdoor brightness sensor FAH and then in function setting ESV. In time setting 120 the contact opens with a delay of 4 minutes if the brightness level is sufficient. In time setting ∞ the contact opens instantly. The local and central pushbutton control is still possible.

Motion detection with taught-in wireless motion detector FBH in function setting ER. The device switches on when motion is detected. If no more motion is detected, the contact opens after the time delay setting t = 2 to 255 seconds (Position ∞).

Outdoor brightness sensor and motion detector can be used together with function setting ER to evaluate motion only in darkness. If the FAH detects brightness, the contact opens immediately.

When teaching-in, the switching threshold is also taught-in: between break of twilight and complete darkness.

The LED performs during the teach-in process according to the operation manual. It shows wireless control commands by short flickering during operation.

Technical data page T-1.

reger .

FSR61LN-230V

Wireless actuator Impulse switch with integr. relay function

EAN 4010312313190

70,50 €/pc.

Wireless Actuator – Impulse Switch with integr. relay function with current measurement FSR61VA-10A



FSR61VA-10A









Function rotary switches

ER : t(s)

Standard setting ex works.

Typical connection



1 NO contact not potential free 10 A/250 V AC, incandescent lamps up to 2000 watts, off delay with switch-off early warning and switchable pushbutton permanent light. With integrated current measurement up to 10A. Bidirectional wireless and with repeater function.

Only 0.7 watt standby loss.

For installation. 45 mm long, 55 mm wide, 33 mm deep.

Supply voltage 230 V.

This wireless actuator features state-of-the-art hybrid technology that we developed: we combined the wear-free receiver and evaluation electronics and a bistable relay.

Apparent power is measured by the integrated current measurement from approx. 10 VA to 2300 VA when the contact is closed. A wireless telegram is transmitted into the Eltako wireless network within 30 seconds after switching on the load or after a change in power by min 5% and cyclically every 10 minutes. Signal evaluated by the Wireless Visualisation and Control Software FVS or the energy consumption indicators FEA55.

With bidirectional wireless; in addition, a repeater function can be switched in. Every change in state and incoming central command telegrams are confirmed by a wireless telegram. This wireless telegram can be taught-in in other actuators, in the FVS software and in FUA55 universal displays.

Scene control: several FSR61s can be switched on or off in a scene by one of the four control signals of a double-rocker pushbutton taught-in as scene pushbutton.

With the top rotary switch in the setting LRN up to 35 wireless pushbuttons can be assigned therefrom one ore more central control pushbuttons. In addition wireless window/door contacts with the function N/O contact or N/C contact while the window is open. The required function of the impulse switch with integrated relay function can then be selected:

ER = switching relay

ESV = impulse switch. Possibly with off delay, then

+ ☼ = ESV with pushbutton permanent light + ☐ ESV with switch-off early warning

+ 🗆 🖔 = ESV with pushbutton permanent light and switch-off early warning

If the permanent light function 3 is switched on, the function can be activated by pressing the pushbutton for longer than 1 second. This function switches off automatically after 2 hours or by pressing the pushbutton.

If the switch-off early warning \(\sqrt{} \) is switched on, the light starts to flicker approx. 30 seconds before time-out. This is repeated three times at decreasing time intervals.

If both switch-off early warning and pushbutton permanent light T. are switched on, switch-off early warning is activated before automatic switch-off of the permanent light.

The function ESV on **the bottom rotary switch** sets the off delay from 2 to 120 minutes. In setting ∞ normal impulse switch function ES without off delay, without pushbutton permanent light and without switch-off early warning.

In setting ER = switching relay of the other rotary switch, this 2nd rotary switch fulfils a safety and power saving function in the settings except ∞ . If the switch-off command is not recognised, e.g. since the pushbutton is jammed or it was pressed too quickly, the relay switches off automatically on expiry of a time adjustable between 2 and 120 seconds. When a FTK is taught-in, this time function is

Twilight switch with taught-in wireless outdoor brightness sensor FAH and then in function setting ESV. In time setting 120 the contact opens with a delay of 4 minutes if the brightness level is sufficient. In time setting 4 the contact openys instantly. The local and central pushbutton control is still possible.

Motion detection with taught-in wireless motion detector FBH in function setting ER. The device switches on when motion is detected. If no more motion is detected, the contact opens after the time delay setting t = 2 to 255 seconds (Position ∞).

Outdoor brightness sensor and motion detector can be used together with function setting ER to evaluate motion only in darkness. If the FAH detects brightness, the contact opens immediately.

When teaching-in, the switching threshold is also taught-in: between break of twilight and complete darkness.

The LED performs during the teach-in process according to the operation manual. It shows wireless control commands by short flickering during operation.

Technical data page T-1.

Wireless actuator - Impulse switch with integr. relay function with current measurement

EAN 4010312311462

73,70 €/pc.

Wireless Actuator Multifunction Impulse Switch FMS61NP

FMS61NP-230V













1+1 NO contacts not potential free 10 A/250 V AC, incandescent lamps up to 2000 watts. Bidirectional wireless and with repeater function. Only 0.7 watt standby loss.

For installation. 45 mm long, 55 mm wide, 33 mm deep.

Switching voltage and control voltage local 230V.

This wireless actuator is a multifunction impulse switch and features state-of-the-art hybrid technology that we developed: we combined the wear-free receiver and evaluation electronics and two bistable relays with zero passage switching.

By using a bistable relay coil power loss and heating is avoided even in the on mode. After installation, wait for short automatic synchronisation before the switched consumer is connected to the mains.

In addition to the wireless control input via an internal antenna, this multifunction impulse switch can also be controlled locally by a conventional 230V control switch previously mounted (in the 2xS function only contact 1).

Starting in production week 18/2011 with **bidirectional wireless**; in addition, a **repeater** function can be switched in. Every change in state and incoming central command telegrams are confirmed by a wireless telegram. This wireless telegram can be taught-in in other actuators, in the FVS software and in FUA55 universal displays.

With the top rotary switch in the setting LRN up to 35 wireless pushbuttons can be assigned, of which one or more central control pushbuttons. The required function of this multifunction impulse switch can then be selected. Switching will be visualised by flashing of the LED.

2xS = 2fold impulse switch each with 1 NO contact

2S = impulse switch with 2 NO contacts

WS = impulse switch with 1 NO contact and 1 NC contact

SS1 = impulse multicircuit switch 1 + 1 NO contact with switching sequence 1

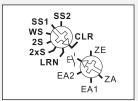
\$\$2 = impulse multicircuit switch 1 + 1 NO contact with switching sequence 2

Switching sequence SS1: 0 - contact 1 - contact 2 - contacts 1+2 Switching sequence SS2: 0 - contact 1 - contacts 1+2 - contact 2

The bottom rotary switch is only required to teach-in the transmitters.

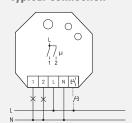
The LED performs during the teach-in process according to the operation manual. It shows wireless control commands by short flickering during operation.

Function rotary switches



Standard setting ex works.

Typical connection



Wireless Actuator Light Controller FLC61NP



FLC61NP-230V













1 NO contact not potential free 10A/250V AC, incandescent lamps 2000 watts, 5 selectable operating modes. Bidirectional wireless and with repeater function. Only 0.7 watt standby loss.

For installation. 45 mm long, 55 mm wide, 33 mm deep. Switching voltage and control voltage local 230 V.

This wireless actuator features state-of-the-art hybrid technology that we developed: we combined the wear-free receiver and evaluation electronics and a bistable relay with zero passage switching.

In addition to the wireless control input via an internal antenna, this wireless actuator can also be controlled locally by a conventional 230V control pushbutton mounted upstream. Glow lamp current is not approved.

With **bidirectional wireless**; in addition, a **repeater** function can be switched in. Every change in state and incoming central command telegrams are confirmed by a wireless telegram. This wireless telegram can be taught-in in other actuators, in the FVS software and in FUA55 universal displays.

With the top rotary switch in the setting LRN up to 35 wireless pushbuttons can be assigned therefrom one ore more central control pushbuttons. In addition, wireless motion and brightness sensors. Then select the required operating mode:

ES(V)+TLZ: In this mode, the normal impulse switch function with buttons is active. Use the lower rotary switch RV to set a time delay between 0 and 60 minutes for the ESV function. Press the universal buttons to switch on and off. The staircase time switch function TLZ results from the Central ON buttons and a time delay set using the rotary switch RV.

AUTO1: In AUTO1 mode, (semi automatic motion: only switch off motion controlled), switch on/off takes place by means of universal buttons or central control buttons. Switch-off takes place by means of one or several wireless motion sensors (e.g. FBH63 or FABH63) in case of no motion on expiry of the time delay set between 0 and 60 minutes using the lower rotary switch RV.

AUTO 2: In AUTO2 mode (semi automatic motion and brightness: only switch off, motion and brightness controlled), switch on/off takes place by means of the universal buttons or central control buttons. Switch-off takes place by means of one or several wireless motion/brightness sensors (e.g. FBH63) in case of no motion or insufficient brightness on expiry of the time delay set between 0 and 60 minutes using the lower rotary switch RV.

AUTO 3: In AUTO3 mode, (fully automatic motion: switch on and off, motion controlled), switch-on takes place in case of brightness threshold undershoot by means of one or several wireless motion/brightness sensors (e.g. FBH63 or FABH63) and switch-off takes place in case of no motion on expiry of time delay set between 0 and 60 minutes using lower rotary switch RV. In addition, switch on/off takes place by means of universal buttons or central control buttons.

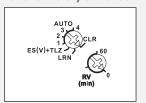
AUTO 4: In AUTO4 mode (fully automatic motion and brightness: switch on and off, motion and brightness controlled), switch-on takes place in case of brightness threshold undershoot by means of one or several wireless motion/brightness sensors (e.g. FBH63) and switch-off takes place in case of no motion or sufficient brightness on expiry of time delay set between 0 and 60 minutes using lower rotary switch RV. In addition, switch on/off takes place by means of universal buttons or central control buttons.

One FBH in the room is sufficient to measure brightness when the lighting comprises fluorescent lamps, energy saving lamps or LED lamps. If lighting consists of electric light bulbs or halogen lamps, an outdoor brightness sensor must be taught-in as Master (e.g. FAH60 or FAH63) for operating modes AUTO2 and AUTO4.

If several sensors are taught-in, switch-off only takes place when all sensors report no motion or sufficient brightness.

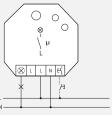
The LED performs during the teach-in process according to the operation manual. It shows wireless control commands by short flickering during operation.

Function rotary switches



Standard setting ex works.

Typical connection



Technical data page **T**-1.

FLC61NP-230V

Wireless actuator Light controller

EAN 4010312312032

75,50 €/pc.

Wireless Actuator Universal Dimmer Switch without N, FUD61NP

FUD61NP-230V















Without N connection, power MOSFET up to 300 W. Only 0.7 watt standby loss. With adjustable minimum brightness and dimming speed.

With switching operation for children's rooms and snooze function.

Light scenes can be taught-in.

Bidirectional wireless and with repeater function.

For installation. 45 mm long, 55 mm wide, 33 mm deep.

Universal dimmer switch for R, L and C loads up to 300 watts, depending on ventilation conditions. Automatic detection of load R+L or R+C.

Without N connection, therefore it is suitable for mounting directly behind the pushbutton light switch, even if there is no N wire.

Energy saving lamps ESL cannot be controlled by dimmers without N-connection.

230V local switching voltage and control voltage. Minimum load only 40W.

Zero passage switching with soft ON and soft OFF to protect lamps.

The brightness level is stored on switch-off (memory).

In case of a power failure the switch position is stored and may be switched on when the power supply is restored.

Automatic electronic overload protection and overtemperature switch-off.

The minimum brightness (fully dimmed) is adjustable with the % totary switch. In the setting LRN up to 35 wireless pushbuttons can be assigned, of which one or more central pushbuttons.

The dimming speed is adjustable using the **dimming speed rotary switch**. At the same time, the soft ON and soft OFF periods are changed.

In addition to the wireless control input via an internal antenna, this universal dimmer switch can also be controlled locally by a conventional 230V control switch if fitted previously. From production week 23/2011 with **bidirectional wireless communication** and a **repeater**

function switch on facility. Every status change and incoming central control telegrams are confirmed by a wireless telegram. This wireless telegram can be taught into other actuators, FUA55 universal displays and the FVS-Software. The current dimming value is also displayed in % in the FVS-Software.

The wireless pushbuttons can be taught-in either as direction switches or universal switches:

When installed as a direction switch, one side is then 'switch on and dim up' and the other side is 'switch off and dim down'. A double-click on the switch-on side activates automatic dim-up to full brightness at dim speed. A double click on the switch-off side activates the snooze function. The children's room function is implemented on the switch-on side.

As a universal switch, change the direction by briefly releasing the pushbutton. Short control commands switch on/off.

Switching operation for children's rooms (universal switch or direction switch on the switch-on side): If the light is switched on by holding down the pushbutton, it starts at the lowest brightness level after approx. I second and dims up slowly as long as the pushbutton is held down. The last saved brightness level is not modified.

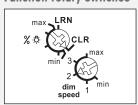
Snooze function (universal switch or direction switch on the switch-off side): With a double impulse the lighting is dimmed down from the current dimming position to the minimum brightness level and switched off. The current dimming position as well as the adjustable minimum brightness level determine the dimming time (max. = 60 minutes) which can be reduced as required. It can be switched off at any time by short-time control commands during the lighting is dimmed down.

Light scenes on the PC are set and retrieved using the Wireless Visualisation and Control Software FVS. A description of the FVS is in Chapter V. One or several FUD61NP devices must be taught in on the PC as dimming switches with percentage brightness values.

Lights scenes with wireless pushbuttons are taught in on the FUD61NP device. Up to four brightness values taught in a light scene pushbutton with double rocker.

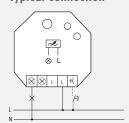
The LED performs during the teach-in process according to the operation manual. It shows wireless control commands by short flickering during operation.

Function rotary switches



Standard setting ex works.

Typical connection



Technical data page **T**-1.

FUD61NP-230V Wireless actuator
Universal dimmer switch without N

EAN 4010312300183

90,70 €/pc.

Wireless Actuator **Universal Dimmer Switch FUD61NPN**



FUD61NPN-230V







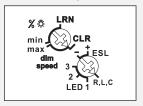






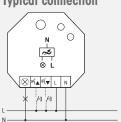


Function rotary switches



Standard setting ex works.

Typical connection



Power MOSFET up to 300 W, ESL up to 100 W and LED up to 100 W. Only 0.6 watt standby loss. With adjustable minimum brightness or dimming speed. With switching operation for light alarm clocks, children's rooms and snooze function. Also with light scene control by PC or wireless pushbuttons. Bidirectional wireless and with repeater function.

For installation. 45 mm long, 55 mm wide, 33 mm deep.

Universal dimmer switch for R, L and C loads up to 300 watts, depending on ventilation conditions. Dimmable energy saving lamps ESL up to 100 watts and dimmable 230 V LED lamps up to 100 watts. Automatic detection of load R+L or R+C when the lower rotary switch is in position R, L, C. ESL and LED is manually settable.

Zero passage switching with soft ON and soft OFF to protect lamps.

Switching voltage and control voltage local 230V. No minimum load. The brightness level is stored on switch-off (memory). In case of a power failure the switch position and the brightness stage are stored and may be switched on when the power supply is restored. Automatic electronic overload protection and overtemperature switch-off.

From production week 15/2011 with **bidirectional wireless communication** and a **repeater** function switch on facility. Every status change and incoming central control telegrams are confirmed by a wireless telegram. This wireless telegram can be taught into other actuators, FUA55 universal displays and the FVS-Software. The current dimming value is also displayed in % in the FVS-Software.

The minimum brightness (fully dimmed) or the dimming speed is adjustable with the %. Adimming speed rotary switch. In the setting LRN up to 35 wireless pushbuttons can be assigned, of which one or more central pushbuttons.

Position R, L, C is the setting for all load types except for ESL and LED. In particular for 230V glow and halogen lamps. The settings +ESL and -ESL consider the special conditions regarding dimmable energy saving lamps: The starting operation is optimized and adapted to the dimming curve. In these settings the special switching operation for children's rooms is not possible and no wound (inductive) transformer must be dimmed. In position -ESL Memory is switched off. This can be of advantage for energy saving lamps because cold energy saving lamps require a higher minimum brightness as it will possibly be stored in Memory for warmer energy saving lamps.

The position LEDs take account of special conditions with dimmable 230V LED lamps: A number of different dimming curves are available. An updated list with dimming curve assignment for commercially available dimmable 230V LED lamps is ready for downloading at www.eltako.com/dimming_curve/LED_gb.pdf. In these settings no wound (inductive) transformer must be dimmed. In addition to the wireless control input via an internal antenna, this universal dimmer switch can also be controlled locally by a conventional 230V control switch if fitted previously. Either separate local control inputs for dim brighter and dim darker as a direction switch, or these two inputs can be bridged and controlled with a single switch as a universal switch. The dimming direction can then be changed by interrupting the control. Short control commands switch on/off.

The wireless pushbuttons can be taught-in either as direction switches or universal switches:

When installed as a direction switch, one side is then 'switch on and dim up' and the other side is 'switch off and dim down'. A double-click on the switch-on side activates automatic dim-up to full brightness at dim speed. A double click on the switch-off side activates the snooze function. The children's room function is implemented on the switch-on side. As a universal switch, change the direction by briefly releasing the pushbutton. With switching operation for children's rooms and snooze function.

Switching for light alarm clocks: A wireless signal of a time clock which was taught-in accordingly starts the wake up function by switching on the light at the lowest brightness level and dims up slowly until the maximum level is reached. Dependent on the set dim speed the wake up time is between 30 and 60 minutes. The dimming process is stopped by tapping briefly, e.g. on the handheld transmitter. At setting ESL is no switching for light alarm clocks possible.

Switching operation for children's rooms (universal switch or direction switch on the switch-on side): If the light is switched on by holding down the pushbutton, it starts at the lowest brightness level after approx. I second and dims up slowly as long as the pushbutton is held down. The last saved brightness level is not modified.

Snooze function (universal switch or direction switch on the switch-off side): With a double impulse the lighting is dimmed down from the current dimming position to the minimum brightness level and switched off. The current dimming position as well as the adjustable minimum brightness level determine the dimming time (max. = 60 minutes) which can be reduced as required. It can be switched off at any time by short-time control commands during the lighting is dimmed down.

Light scenes on the PC are set and retrieved using the Wireless Visualisation and Control Software FVS. A description of the FVS is in Chapter V. One or several FUD61NPN devices must be taught in on the PC as dimming switches with percentage brightness values. Lights scenes with wireless pushbuttons are taught in on the FUD61NPN device. Up to four brightness values taught in a light scene pushbutton with double rocker.

Either an FBH or an FAH can be taught in according to the operation manual.

The LED performs during the teach-in process according to the operation manual. It shows wireless control commands by short flickering during operation. Technical data page **T**-1.

FUD61NPN-230V

Wireless actuator – Universal dimmer switch

EAN 4010312300299

91,70 €/pc.

Wireless Actuator for Shading Elements and Roller Shutters FSB61NP

FSB61NP-230V













1+1 NO contact not potential free 10 A/250 V AC, for roller blinds and shading systems. Bidirectional wireless and with repeater function. Only 0.7 watt standby loss.

For installation. 45 mm long, 55 mm wide, 33 mm deep.

Switching voltage and control voltage local 230V.

This wireless actuator features state-of-the-art hybrid technology that we developed: we combined the wear-free receiver and evaluation electronics and two bistable relays with zero passage switching.

By using a bistable relay coil power loss and heating is avoided even in the on mode. After installation, wait for short automatic synchronisation before the switched consumer is connected to the mains.

In addition to the wireless control input via an internal antenna, this wireless actuator can also be controlled locally by a conventional 230V control switch previously mounted.

Starting in production week 41/2011 with **bidirectional wireless**; in addition, a **repeater function** can be switched in. Every change in state and incoming central command telegrams are confirmed by a wireless telegram.

This wireless telegram can be taught-in in other actuators, in the FVS software and in FUA55 universal displays. **With the top rotary switch** in the setting LRN up to 35 wireless pushbuttons can be assigned, of which one ore more central pushbuttons. The required function of this impulse group switch can then be selected:

- **GS1** = Group switch with pushbutton control and off delay in seconds. Both a wireless pushbutton with the function 'Up-Hold-Down-Hold' as well as the local pushbutton can be taught-in or a wireless pushbutton like a roller Venetian blind double pushbutton with pressing above 'Up' and pressing below 'Down'. Tap briefly to interrupt the movement immediately. **Dynamic central control with and without priority can be implemented.**
- **GS2** = Group switch same as GS1, central switch always without priority.
- **GS3** = Group switch same as GS2, in addition with double-click **reverse function** for the local pushbutton and a wireless pushbutton as universal switch taught-in appropriately: After double-clicking, the Venetian blind moves in the opposite direction until it is stopped by a brief tap.
- **GS4** = Group switch same as GS2, in addition with tip reverse function: The control pushbutton is initially in static mode. The relay is energised as long as the pushbutton is tapped so that the Venetian blind can be reversed in the opposite direction by short impulses.
- **GR** = Group relay. As long as the wireless pushbutton is closed, a contact is closed. Then it reopens. On reception of the next wireless signal the other contact closes, etc.

Shading scene control: Up to 4 saved 'Down' running times are retrievable using the control signal of a pushbutton and double rocker taught-in as a scene button or taught-in by a PC loaded with the FVS software.

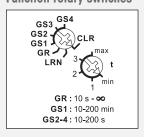
If a **wireless outdoor brightness sensor FAH60** is also taught-in in addition to a scene pushbutton, the taught-in scenes 1, 2 and 4 are executed automatically depending on the outdoor brightness.

Use the bottom rotary switch to set the time delay to the position 'Halt' in seconds. Select a delay time that is at least as long as the shading element or roller shutter needs to move from its end position to the other position.

When a wireless window/door contact FTK or Hoppe window handle is taught-in, a lock-out protection is set up while the door is open and disables a Central Down command.

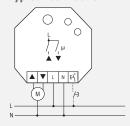
The LED performs during the teach-in process according to the operation manual. It shows wireless control commands by short flickering during operation.

Function rotary switches



Standard setting ex works.

Typical connection



Technical data page **T**-1.

Wireless actuator for shading elements and roller shutters

EAN 4010312300213

77,40 €/pc.

Wireless Actuator Staircase Off-delay Timer FTN61NP



FTN61NP-230V













1 NO contact not potential free 10A/250V AC, incandescent lamps up to 2000 watts, off delay with switch-off early warning and switchable pushbutton permanent light. Bidirectional wireless and with repeater function. Only 0.7 watt standby loss.

For installation. 45 mm long, 55 mm wide, 33 mm deep.

Switching voltage 230 V.

Zero passage switching to protect contacts and consumers.

This wireless actuator is a staircase off-delay timer and features state-of-the-art hybrid technology that we developed: we combined the wear-free receiver and evaluation electronics and a bistable relay with zero passage switching.

By using a bistable relay coil power loss and heating is avoided even in the on mode. After installation, wait for short automatic synchronisation before the switched consumer is connected to the mains.

In addition to the wireless control input via an internal antenna, this staircase off-delay timer can also be controlled locally by a conventional 230V control switch previously mounted. Glow lamp current up to 5 mA, dependent on the ignition voltage of the glow lamps.

The lighting is switched on again after a power failure provided the set time has not yet elapsed.

Starting in production week 25/2011 with **bidirectional wireless**; in addition, a **repeater** function can be switched in. Every change in state and incoming central command telegrams are confirmed by a wireless telegram. This wireless telegram can be taught-in in other actuators, in the FVS software and in FUA55 universal displays.

With the top rotary switch in the setting LRN up to 35 wireless pushbuttons and/or wireless motion/brightness sensors FBH can be assigned, of which one ore more central pushbuttons. The required function of this staircase off-delay timer can then be selected.

The flashing of the LED as soon as a new setting range has been reached when turning the rotary switch helps to find the desired position reliably.

NLZ = off-delay timer

TLZ = staircase time switch

- + D = TLZ with pushbutton permanent light + T = TLZ with switch-off early warning
- + 1 Def = TLZ with pushbutton permanent light and switch-off early warning

If the permanent light function $\begin{picture}(60,0) \put(0,0){\line(1,0){15}} \put(0,0){\line(1,0){15}}$ the pushbutton for longer than 1 second. This function switches off automatically after 60 minutes or by pressing the pushbutton for longer than 2 seconds.

If the switch-off early warning \prod is switched on, the light starts to flicker approx. 30 seconds before time-out. This is repeated three times at decreasing time intervals.

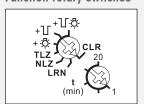
If both switch-off early warning and pushbutton permanent light 15 are switched on, switch-off early warning is activated before automatic switch-off of the permanent light.

With the bottom rotary switch, the off delay is adjusted from 1 to 20 minutes.

When motion/brightness sensors FBH are taught-in, use the last FBH that was taught-in to define the switching threshold at which the lighting is switched on or off depending on the brightness or motion detected. The off delay set on the FTN61NP is prolonged by a setting of 1 minute fixed in the FBH.

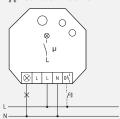
The LED performs during the teach-in process according to the operation manual. It shows wireless control commands by short flickering during operation.

Function rotary switches



Standard setting ex works.

Typical connection



Technical data page T-1.

FTN61NP-230V

Wireless Actuator Multifunction Time Relay FMZ61

FMZ61-230 V









2000 watts.* Bidirectional wireless and with repeater function.





Only 0.6 watt standby loss.

For installation. 45 mm long, 55 mm wide, 33 mm deep.

Supply voltage and if necessary control voltage locally 230V.

This wireless actuator features state-of-the-art hybrid technology that we developed: we combined the wear-free receiver and evaluation electronics with a bistable relay.

1 NO contact potential free 10 A/250 V AC, incandescent lamps up to

By using a bistable relay coil power loss and heating is avoided even in the on mode. After installation, wait for short automatic synchronisation before the switched consumer is connected to the mains.

In addition to the wireless control input via an internal antenna, this wireless actuator can also be controlled locally by a conventional control switch if fitted previously.

Glow lamp current is not permitted.

Starting in production week 18/2011 with **bidirectional wireless**; in addition, a **repeater** function can be switched in. Every change in state and incoming central command telegrams are confirmed by a wireless telegram. This wireless telegram can be taught-in in other actuators, in the FVS software and in FUA55 universal displays.

With the top rotary switch in the setting LRN up to 35 wireless pushbuttons can be assigned, of which one or more central control pushbuttons. In addition, wireless window/door contacts (FTK) may have a NO or NC function when the window is open. If a direction switch is taught-in, a function (e.g. TI) can be started using the top switch (START) and stopped with the bottom switch (STOP). The required function can then be selected. Switching will be visualised by flashing of the LED.

RV = off delay

AV = operating delay

TI = clock generator starting with impulse

IA = impulse-controlled operating delay

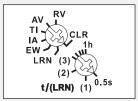
EW = fleeting NO contact

The bottom rotary switch sets the time from 0.5 seconds to 60 minutes.

The LED performs during the teach-in process according to the operation manual. It shows wireless control commands by short flickering during operation.

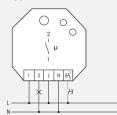
* The maximum load can be used from a delay time or clock cycle of 5 minutes. The maximum load is reduced for shorter times as follows: up to 2 minutes 30%, up to 5 minutes 60%.

Function rotary switches



Standard setting ex works.

Typical connection



Wireless Actuator Heating/Cooling Relay FHK61-230V



FHK61-230 V











1 NO contact potential free 10 A/250 V AC. Only 0.6 watt standby loss. Bidirectional wireless and with repeater function.

For installation. 45 mm long, 55 mm wide, 33 mm deep. Supply voltage 230 V.

This wireless actuator features state-of-the-art hybrid technology that we developed: we combined the wear-free receiver and evaluation electronics with a bistable relay.

By using a bistable relay coil power loss and heating is avoided even in the on mode. After installation, wait for short automatic synchronisation before the switched consumer is connected to the mains.

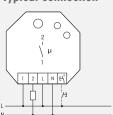
This heating/cooling relay evaluates the information from wireless temperature controllers or sensors. Possibly supplemented by window/door contacts, motion detector, Hoppe window handles and wireless pushbuttons.

Starting in production week 25/2011 with **bidirectional wireless**; in addition, a **repeater** function can be switched in. Every change in state is confirmed by a wireless telegram. This wireless telegram can be taught-in in other actuators, in the FVS software and in FUA55 universal displays.

Standard setting ex works.

Function rotary switches

Typical connection



Left rotary switch for operating modes:

H1: Heating operation with PWM control at T = 4 minutes (PWM = pulse width modulation). (suitable for valves with thermoelectric valve drive)

H2: Heating operation with PWM control at T = 15 minutes.

(suitable for valves with motor-driven valve drive)

H3: Operating mode with 2-point control.

K1: Cooling operation with PWM control at T = 15 minutes.

K2: Cooling mode with 2-point control.

Switchover is visualised by LEDs flashing.

Right rotary switch for adjustable hysteresis and PWM influence:

Left stop: lowest hysteresis 0.5°. **Middle position:** hysteresis 2.5°. **Right stop:** largest hysteresis 4.5°. Inbetween, divisions in steps of 0.5° visualised by LEDs flashing.

Two-point control mode: The hysteresis rotary switch sets the required difference between the switch-on and switch-off temperatures. When the 'actual temperature' >= reference temperature', the device is switched off.

When the 'actual temperature <= (reference temperature - hysteresis)', the device is switched on.

The signs are the opposite in cooling mode.

PWM control mode: The hysteresis rotary switch set the required temperature difference at which the device is switched on at 100%. When the 'actual temperature' >= reference temperature', the device is switched off.

When the 'actual temperature <= (reference temperature – hysteresis)', the device is switched on at 100%. If the 'actual temperature' lies between the 'reference temperature – hysteresis' and the 'reference temperature', the device is switched on and off with a PWM in steps of 10% depending on the temperature difference. The lower the temperature difference, the shorter the switch-on time. As a result of the settability of the 100% value, the PWM can be adapted to the heater size and inertia. The signs are the opposite in cooling mode.

In heating mode, the frost protection function is always enabled. As soon as the actual temperature drops below 8°C, the temperature is controlled in the selected operating mode to 8°C.

If one or several windows are open, the output remains off **provided the window/door contacts FTK or Hoppe window handles** are taught-in. In heating mode, however, the frost protection remains enabled.

As long as all taught-in **motion detectors FBH** detect no motion, the device is switched to setback mode. In heating mode, the reference temperature is set back by 2°; in cooling mode, it is raised by 2°. As soon as a motion detector signals movement again, the device is switched to normal mode.

When a **wireless pushbutton FT4** is taught-in, the assignment of the 4 keys is assigned with the following fixed functions: Top right: Normal mode (can also be enabled by timer). Bottom right: Night setback mode by 4°; in cooling mode, raised by 4° (can also be enabled by timer). Top left: Setback mode by 2°, in cooling mode, raised by 2°. Bottom left: Off (in heating mode, frost protection enabled; in cooling mode permanent off). If the motion detector and wireless pushbutton are taught-in at the same time, the last telegram received is always the one that is valid. A motion detector therefore switches off a setback mode selected by wireless pushbutton when a movement is detected.

The LED performs during the teach-in process according to the operation manual. It shows wireless control commands by short flickering during operation.

Technical data page T-1.

FHK61-230V

Wireless Actuator Heating/Cooling Relay FHK61/8-24 V UC

FHK61/8-24 V UC

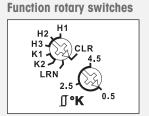






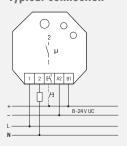






Standard setting ex works.

Typical connection



1 NO contact potential free 10A/250V AC. Only 0.3-0.8 watt standby loss. Bidirectional wireless and with repeater function.

For installation. 45 mm long, 55 mm wide, 33 mm deep. Supply voltage 8 to 24 V UC.

This wireless actuator features state-of-the-art hybrid technology that we developed: we combined the wear-free receiver and evaluation electronics with a bistable relay.

By using a bistable relay coil power loss and heating is avoided even in the on mode. After installation, wait for short automatic synchronisation before the switched consumer is connected to the mains.

This heating/cooling relay evaluates the information from wireless temperature controllers or sensors. Possibly supplemented by window/door contacts, motion detector, Hoppe window handles and wireless pushbuttons.

Starting in production week 25/2011 with **bidirectional wireless**; in addition, a **repeater** function can be switched in. Every change in state is confirmed by a wireless telegram. This wireless telegram can be taught-in in other actuators, in the FVS software and in FUA55 universal displays.

Left rotary switch for operating modes:

H1: Heating operation with PWM control at T = 4 minutes.

(suitable for valves with thermoelectric valve drive)

H2: Heating operation with PWM control at T = 15 minutes.

(suitable for valves with motor-driven valve drive)

H3: Heating operation with 2-point control.

K1: Cooling operation with PWM control at T = 15 minutes.

K2: Cooling mode with 2-point control.

Switchover is visualised by LEDs flashing.

Right rotary switch for adjustable hysteresis and PWM influence:

Left stop: lowest hysteresis 0.5°. Middle position: hysteresis 2.5°.

Right stop: largest hysteresis 4.5°.

Inbetween, divisions in steps of 0.5° visualised by LEDs flashing.

Two-point control mode: The hysteresis rotary switch sets the required difference between the switch-on and switch-off temperatures. When the 'actual temperature >= reference temperature', the device is switched off. When the 'actual temperature <= (reference temperature – hysteresis)', the device is switched on. The signs are the opposite in cooling mode.

PWM control mode: The hysteresis rotary switch set the required temperature difference at which the device is switched on at 100%. When the 'actual temperature >= reference temperature', the device is switched off.

When the 'actual temperature <= (reference temperature – hysteresis)', the device is switched on at 100%. If the 'actual temperature' lies between the 'reference temperature – hysteresis' and the 'reference temperature', the device is switched on and off with a PWM in steps of 10% depending on the temperature difference. The lower the temperature difference, the shorter the switch-on time. As a result of the settability of the 100% value, the PWM can be adapted to the heater size and inertia. The signs are the opposite in cooling mode.

In heating mode, the frost protection function is always enabled. As soon as the actual temperature drops below 8°C, the temperature is controlled in the selected operating mode to 8°C.

If one or several windows are open, the output remains off **provided the window/door contacts FTK or Hoppe window handles** are taught-in. In heating mode, however, the frost protection remains enabled.

As long as all taught-in **motion detectors FBH** detect no motion, the device is switched to setback mode. In heating mode, the reference temperature is set back by 2°; in cooling mode, it is raised by 2°. As soon as a motion detector signals movement again, the device is switched to normal mode.

When a **wireless pushbutton FT4** is taught-in, the assignment of the 4 keys is assigned with the following fixed functions: Top right: Normal mode (can also be enabled by timer). Bottom right: Night setback mode by 4°; in cooling mode, raised by 4° (can also be enabled by timer). Top left: Setback mode by 2°, in cooling mode, raised by 2°. Bottom left: Off (in heating mode, frost protection enabled; in cooling mode permanent off). If the motion detector and wireless pushbutton are taught-in at the same time, the last telegram received is always the one that is valid. A motion detector therefore switches off a setback mode selected by wireless pushbutton when a movement is detected.

The LED performs during the teach-in process according to the operation manual. It shows wireless control commands by short flickering during operation.

Technical data page T-1.

FHK61/8-24V UC

Wireless Actuator Fan Relay F2L61NP



F2L61NP-230V



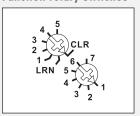






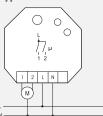


Function rotary switches



Standard setting ex works.

Typical connection



2-speed fan actuator 1+1 NO contacts not potential free 10 A/250 V AC. Only 0.9 watt standby loss. Activates passive and active sensors.

For installation. 45 mm long, 55 mm wide, 33 mm deep.

Supply voltage and switching voltage 230V.

This wireless actuator features state-of-the-art hybrid technology that we developed: we combined the wear-free receiver and evaluation electronics and two bistable relays with zero passage switching.

By using a bistable relay coil power loss and heating is avoided even in the on mode. An automatic short synchronisation takes place after installation.

Maximum current as the sum of both contacts 16A at 230V.

When the two contacts are switched in parallel, the 2-speed actuator for 2 fan speeds becomes an actuator for one fan.

The top rotary switch must be set to position LRN for teach-in.

The bottom rotary switch selects the later function in operation during teach-in. Up to 34 passive sensors are taught-in, e.g. wireless pushbuttons, window/door contacts, Hoppe window handles or wireless transmitter modules. A single active sensor for ${\rm CO}_2$, humidity or temperature can be taught-in additionally or individually.

A wireless switch with double rocker is taught-in in rotary switch position 1 if the 2 contacts are supposed to remain individually closed in the two speeds (exclusive), or in position 7 if contact 2 is supposed to cut in for Speed 2 (accumulative). The double rockers are programmed automatically as follows: top left Speed 1, top right Speed 2. Bottom left and bottom right OFF: the two contacts open. If the two contacts are switched in parallel, it is sufficient to have one wireless switch with 1 rocker. Here, top is ON and bottom is OFF.

In rotary switch position 4, all passive sensors can be taught-in as circuit-breakers. The active sensors are assigned as follows:

 ${\rm CO_2}$ sensor exclusive = position 2, ${\rm CO_2}$ sensor accumulative = position 5; humidity sensor exclusive = position 3, humidity sensor accumulative = position 6; temperature sensors exclusive = position 4, temperature sensors accumulative = position 7. Only one sensor can be taught-in.

When operated with an active sensor, use the bottom rotary switch to set the switch-on threshold. When the threshold is reached, stage 1 is switched on. Use the top rotary switch to set the addition value at which Contact 2 closes.

Overview of switch-on thresholds (lower rotary switch):

CO₂ (ppm): 1 = 800 ppm; 2 = 1000 ppm; 3 = 1200 ppm; 4 = 1400 ppm; 5 = 1600 ppm; 6 = 1800 ppm and 7 = 2000 ppm.

Humidity (%): 1 = 10 %, 2 = 25 %, 3 = 40 %, 4 = 55 %, 5 = 70 %, 6 = 85 % and 7 = 100 %.

Temperature (°C): 1 = 20 °C, 2 = 23 °C, 3 = 26 °C, 4 = 29 °C, 5 = 32 °C, 6 = 35 °C and 7 = 38 °C.

Overview of addition values (upper rotary switch):

 $\mathbf{CO_2}$ difference: $1 = 50 \, \text{ppm}$, $2 = 100 \, \text{ppm}$, $3 = 200 \, \text{ppm}$, $4 = 300 \, \text{ppm}$ and $5 = 500 \, \text{ppm}$. Fixed hysteresis: $50 \, \text{ppm}$.

Humidity difference: 1 = 5%, 2 = 15%, 3 = 25%, 4 = 35% and 5 = 45%. Fixed hysteresis: 5%.

Temperature difference (K): $1 = 1 \, \text{K}$, $2 = 2 \, \text{K}$, $3 = 4 \, \text{K}$, $4 = 7 \, \text{K}$ and $5 = 10 \, \text{K}$. Fixed hysteresis: $1 \, \text{K}$.

The LED performs during the teach-in process according to the operation manual. It shows control commands by short flickering during operation.

Technical data page T-1.

F2L61NP-230V Wireless actuator Fan relay EAN 4010312305027 **80,60 €/pc.**

Wireless Actuator Mains Disconnection Relay FFR61

FFR61-230V















1+1 NO contacts not potential free 10 A/250 V AC, incandescent lamps up to 2000 watts. Only 0.7 watt standby loss. Bidirectional wireless and with repeater function.

For installation. 45 mm long, 55 mm wide, 33 mm deep.

Supply voltage and switching voltage 230V.

This wireless actuator features state-of-the-art hybrid technology that we developed: we combined the wear-free receiver and evaluation electronics and two bistable relays with zero passage switching.

By using a bistable relay coil power loss and heating is avoided even in the on mode. An automatic short synchronisation takes place after installation.

The mains disconnection relay FFR61-230 V interrupts the power supply of 1 or 2 circuits and this prevents interfering electromagnetic fields.

Maximum current as the sum of both contacts 16A at 230V.

Starting in production week 31/2011 with **bidirectional wireless;** in addition, a **repeater** function can be switched in. Every status change and incoming central control telegrams are confirmed by a wireless telegram. This wireless telegram can be taught-in in other actuators, in the FVS software and in FUA55 universal displays.

This mains disconnection relay is fitted in the circuit distributor which branch off to max two 16A protected circuits in the room to be protected by mains disconnection. For example, one circuit for the lighting and one circuit for the socket outlets.

The circuits are enabled and disabled manually using one or several stationary wireless pushbuttons or hand-held wireless transmitters. Contact L-2 can store a switch-off delay of 10 to 90 minutes.

If a wireless pushbutton rocker is assigned to 'central ON' for the mains disconnection relay and to 'ON' for the lighting, the mains disconnection relay is automatically cancelled when the lighting is switched on.

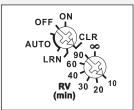
If a wireless pushbutton rocker, e.g. a bedside light, is assigned with 'OFF' for the lamp and 'central OFF' for the mains disconnection relay, the mains disconnection is automatically activated when the bedside lamp is switched off.

7 teach-in positions of the FFR61 plus the switch-off delay gives the user plenty of scope to

define the settings for the mains disconnection relay. **The LED** performs during the teach-in process according to the operation manual.

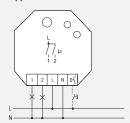
The LED performs during the teach-in process according to the operation manual. It shows wireless control commands by short flickering during operation.

Function rotary switches



Standard setting ex works.

Typical connection



5-17

Wireless Actuator – Time Relay for Card Switch or Smoke Alarm FZK61NP



FZK61NP-230V















1+1 NO contacts not potential free 10 A/250 V AC, incandescent lamps 2000 watts. Only 0.7 watt standby loss. Off-delay and response lag are adjustable for one contact. Bidirectional wireless and with repeater function.

For installation.

45 mm long, 55 mm wide, 33 mm deep.

Supply voltage and switching voltage 230V.

This wireless actuator features state-of-the-art hybrid technology that we developed: we combined the wear-free receiver and evaluation electronics and two bistable relays with zero passage switching.

By using a bistable relay coil power loss and heating is avoided even in the on mode. An automatic short synchronisation takes place after installation.

Maximum current as the sum of both contacts 16A at 230V.

Starting in production week 27/2011 with **bidirectional wireless**; in addition, a **repeater** function can be switched in. Every status change and incoming central control telegrams are confirmed by a wireless telegram. This wireless telegram can be taught-in in other actuators, in the FVS software and in FUA55 universal displays

The upper rotary switch AV is required for teach-in. Then set here the response lag time AV between 0 and 180 seconds for Contact L-2.

Use **the bottom rotary switch RV** to set the time delay time RV between 0 and 180 seconds for Contact L-2.

The AV and RV times permit the simple control of air conditioning systems with the wireless card switches FKF and FKC.

The response lag AV starts as soon as the hotel card/key card is inserted in the wireless card switch FKF and the time delay RV starts after the card is removed.

In addition to the wireless card switch FKF, wireless window/door contacts FTK, Hoppe window handles and motion/brightness sensor FBH can also be taught in.

Opening a monitored window also starts the RV time. When the RV time expires, Contact L-2 opens. Closing all monitored windows starts the AV time. When the AV time expires, Contact L-2 closes.

Contact L-1 is provided for light switching and always switches immediately without AV/RV. To increase the switching capacity for one channel, outputs 1 and 2 can be bridged, provided no air conditioning control is required. Then AV and RV must be set to 0.

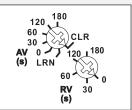
When motion detectors are taught in, the two channels switch on immediately motion is detected. If no motion is detected for 15 minutes, the two channels are switched off.

Several wireless smoke alarms FRW-ws are logically linked with this switch actuator time relay so that the RV time only starts after all FRW-ws devices have signalled alarm end.

Card switches and smoke alarms can not be operated together with an FZK device.

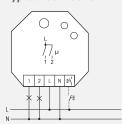
The LED performs during the teach-in process according to the operation manual. It shows wireless control commands by short flickering during operation.

Function rotary switches



Standard setting ex works.

Typical connection



Wireless Actuator Impulse Switch with integr. relay function FSR70



FSR70-230 V

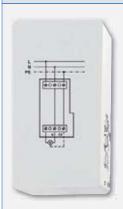












1 NO contact not potential free 10 A/250 V AC, incandescent lamps up to 2000 watts. Bidirectional wireless and with repeater function.
Only 0.6 watt standby loss.

Mounting in the 230V power supply cord, e.g. in false ceilings. 100mm long, 50mm wide and 31mm deep.

This wireless actuator is an impulse switch with integrated relay function and features state-of-the-art hybrid technology that we developed: we combined the wear-free receiver and evaluation electronics and a bistable relay with zero passage switching.

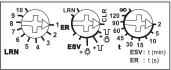
By using a bistable relay coil power loss and heating is avoided even in the on mode. Starting in production week 15/2012 with **bidirectional wireless**; in addition, a **repeater** function can be switched in. Every change in state and incoming central command telegrams are confirmed by a wireless telegram. This wireless telegram can be taught-in in other actuators, in the FVS software and in FUA55 universal displays.

Scene control: several FSR70s can be switched on or off in a scene by one of the four control signals of a double-rocker pushbutton taught-in as scene pushbutton.

With the middle rotary switch on the side in the setting LRN up to 35 wireless pushbuttons can be assigned, of which one or more central control pushbuttons. In addition wireless window/door contacts with the function N/O contact or N/C contact while the window is open. The required function of the impulse switch with integrated relay function can then be selected:

on the side

Function rotary switches



Standard setting ex works.

ER = switching relay

= impulse switch. Possibly with off delay, then:

+ 🔅 = ESV with pushbutton permanent light

 $+ \Box \Gamma$ = ESV with switch-off early warning

+ The ESV with pushbutton permanent light and switch-off early warning

If the permanent light function \diamondsuit is switched on, the function can be activated by pressing the pushbutton for longer than 1 second. This function switches off automatically after

2 hours or by pressing the pushbutton.

If the switch-off early warning □ is switched on, the light starts to flicker approx.

ESV

30 seconds before time-out. This is repeated three times at decreasing time intervals.

If both switch-off early warning and pushbutton permanent light T.\$ are switched on, switch-off early warning is activated before automatic switch-off of the permanent light.

The function ESV on the right rotary switch on the side sets the off delay from 2 to

120 minutes. In setting ∞ normal impulse switch function ES without off delay, without pushbutton permanent light and without switch-off early warning.

In setting ER = switching relay of the middle rotary switch, this rotary switch fulfils a safety and power saving function in the settings except ∞ . If the switch-off command is not recognised, e.g. since the pushbutton is jammed or it was pressed too quickly, the relay switches off automatically on expiry of a time adjustable between 2 and 120 seconds. When a FTK is taught-in, this time function is turned off.

Twilight switch with taught-in wireless outdoor brightness sensor FAH and then in function setting ESV. In time setting 120 the contact opens with a delay of 4 minutes if the brightness level is sufficient. In time setting ∞ the contact opens instantly. The local and central push-button control is still possible.

Motion detection with taught-in wireless motion detector FBH in function setting ER. The device switches on when motion is detected. If no more motion is detected, the contact opens after the time delay setting t = 2 to 255 seconds (Position ∞).

Outdoor brightness sensor and motion detector can be used together with function setting ER to evaluate motion only in darkness. If the FAH detects brightness, the contact opens immediately.

When teaching-in, the switching threshold is also taught-in: between break of twilight and complete darkness.

The LED on the side below the left rotary switch accompanies the teach-in process as described in the operation manual. It indicates control commands by short flickering during operation.

Technical data page T-1.

FSR70-230V Wireless actuator Impulse switch with integr. relay function

EAN 4010312301517

70,30 €/pc.

Wireless Actuator - Impulse Switch with integr. relay function with active power measurement FSR70W





FSR70W-16 A





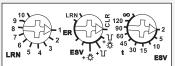








Function rotary switches on the side



Standard setting ex works.

1 NO contact not potential free 16A/250V AC, incandescent lamps up to 2000 watts. With integrated active power measurement up to 3680 watts. Bidirectional wireless and with repeater function. Only 0.9 watt standby loss.

Mounting in the 230V power supply cord, e.g. in false ceilings. 100mm long, 50mm wide and 31 mm deep.

This wireless actuator is an impulse switch with integrated relay function and features state-of-the-art hybrid technology that we developed: we combined the wear-free receiver and evaluation electronics and a bistable relay with zero passage switching.

By using a bistable relay coil power loss and heating is avoided even in the on mode. Power is measured by the integrated active power measurement from approx 10W when the contact is closed. A wireless telegram is transmitted into the Eltako wireless network within 20 seconds after switching on the load or after a change in power by min 5% and cyclically every 10 minutes. Signal evaluated by the Wireless Visualisation and Control Software FVS or the energy consumption indicators FEA55.

With **bidirectional wireless**; in addition, a **repeater** function can be switched in. Every change in state and incoming central command telegrams are confirmed by a wireless telegram. This wireless telegram can be taught-in in other actuators, in the FVS software and in FUA55 universal displays.

With the middle rotary switch on the side in the setting LRN up to 35 wireless pushbuttons can be assigned, of which one or more central control pushbuttons. In addition wireless window/door contacts with the function N/O contact or N/C contact while the window is open. The required function of the impulse switch with integrated relay function can then be selected:

ER = switching relay

ESV = impulse switch. Possibly with off delay, then

- + 3: = ESV with pushbutton permanent light + 1 = ESV with switch-off early warning
- + T = ESV with pushbutton permanent light and switch-off early warning

If the permanent light function $\stackrel{\triangle}{\hookrightarrow}$ is switched on, the function can be activated by pressing the pushbutton for longer than 1 second. This function switches off automatically after 2 hours or by pressing the pushbutton.

If the switch-off early warning 🗓 is switched on, the light starts to flicker approx. 30 seconds before time-out. This is repeated three times at decreasing time intervals.

If both switch-off early warning and pushbutton permanent light \(\subset\) are switched on, switch-off early warning is activated before automatic switch-off of the permanent light.

The function ESV on the right rotary switch on the side sets the off delay from 2 to 120 minutes. In setting ∞ normal impulse switch function ES without off delay, without pushbutton permanent light and without switch-off early warning.

In setting ER = switching relay of the middle rotary switch, this rotary switch fulfils a safety and power saving function in the settings except ∞ . If the switch-off command is not recognised, e.g. since the pushbutton is jammed or it was pressed too quickly, the relay switches off automatically on expiry of a time adjustable between 2 and 120 seconds. When a FTK is taught-in, this time function is turned off.

Twilight switch with taught-in wireless outdoor brightness sensor FAH and then in function setting ESV. In time setting 120 the contact opens with a delay of 4 minutes if the brightness level is sufficient. In time setting ∞ the contact opens instantly. The local and central pushbutton control is still possible.

Motion detection with taught-in wireless motion detector FBH in function setting ER. The device switches on when motion is detected. If no more motion is detected, the contact opens after the time delay setting t = 2 to 255 seconds (Position ∞).

Outdoor brightness sensor and motion detector can be used together with function setting ER to evaluate motion only in darkness. If the FAH detects brightness, the contact opens immediately.

When teaching-in, the switching threshold is also taught-in: between break of twilight and complete darkness.

The LED under the left rotary switch on the side performs during the teach-in process as described in the instructions below. It shows wireless control commands by short flickering during operation.

Wireless Actuator Universal Dimmer Switch FUD70

FUD70-230 V











Universal dimmer switch, Power MOSFET 400 W, ESL up to 100 W and LED up to 100 W. Only 0.6 watt standby loss.

With adjustable minimum or maximum brightness and dimming speed. With switching operation for light alarm clocks, children's rooms and snooze function. Also with light scene control by PC or wireless pushbuttons.

Mounting in the 230V power supply cord, e.g. in false ceilings.

100mm long, 50mm wide and 25mm deep.

Universal dimmer switch for R, L and C loads up to 400 watts. Dimmable energy saving lamps ESL up to 100 watts and dimmable 230 V LED lamps up to 100 watts..

Zero passage switching with soft ON and soft OFF to protect lamps.

The brightness level is stored on switch-off (memory).

In case of a power failure the switch position and the brightness stage are stored and may be switched on when the power supply is restored.

Automatic electronic overload protection and overtemperature switch-off.

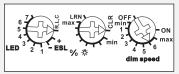
The left rotary switch on the side is first required for teach-in and in operation, it defines what load type the dimming curve should be set to:

Position R, L, C is the setting for all load types except for ESL and LED. In particular for 230V glow and halogen lamps. The load type, inductive or capacitive, is detected automatically.

The settings +ESL and -ESL consider the special conditions regarding dimmable energy saving lamps: The starting operation is optimized and adapted to the dimming curve. In these

saving lamps: The starting operation is optimized and adapted to the dimming curve. In these settings the special switching operation for children's rooms is not possible and no wound (inductive) transformer must be dimmed. In position -ESL Memory is switched off. This can be of advantage for energy saving lamps because cold energy saving lamps require a higher minimum brightness as it will possibly be stored in Memory for warmer energy saving lamps.

Function rotary switches on the side



Standard setting ex works.

The position LEDs take account of special conditions with dimmable 230 V LED lamps: A number of different dimming curves are available. An updated list with dimming curve assignment for commercially available dimmable 230 V LED lamps is ready for downloading at www.elfako.com/dimming_curve/LED_gb.pdf. In these settings no wound (inductive) transformer must be dimmed. The minimum brightness (fully dimmed down) or maximum brightness (fully dimmed up) is adjustable with the middle % rotary switch on the side. In the setting LRN up to 30 pushbuttons can be assigned, of which one or more central pushbuttons.

The dimming speed is adjustable using the right dimming speed rotary switch on the side.

At the same time, the soft ON and soft OFF periods are changed.

The wireless pushbuttons can be taught-in either as direction switches or universal switches:

When installed as a direction switch, one side is then 'switch on and dim up' and the other side is 'switch off and dim down'. A double-click on the switch-on side activates automatic dim-up to full brightness at dim speed. A double click on the switch-off side activates the snooze function. The children's room function is implemented on the switch-on side.

As a universal switch, change the direction by briefly releasing the pushbutton. With switching operation for children's rooms and snooze function.

Switching for light alarm clocks: A wireless signal of a time clock which was taught-in accordingly starts the wake up function by switching on the light at the lowest brightness level and dims up slowly until the maximum level is reached. Dependent on the set dim speed the wake up time is between 30 and 60 minutes. The dimming process is stopped by tapping briefly, e.g. on the handheld transmitter. At setting ESL the switching for light alarm clocks is not possible.

Switching operation for children's rooms (universal switch or direction switch on the switch-on side): If the light is switched on by holding down the pushbutton, it starts at the lowest brightness level after approx. I second and dims up slowly as long as the pushbutton is held down. The last saved brightness level is not modified.

Snooze function (universal switch or direction switch on the switch-off side): With a double impulse the lighting is dimmed down from the current dimming position to the minimum brightness level and switched off. The current dimming position as well as the adjustable minimum brightness level determine the dimming time (max. = 60 minutes) which can be reduced as required. It can be switched off at any time by short-time control commands during the lighting is dimmed down.

Light scenes on the PC are set and retrieved using the Wireless Visualisation and Control Software FVS. A description of the FVS is in Chapter V. One or several FUD70 devices must be taught in on the PC as dimming switches with percentage brightness values. **Lights scenes with wireless pushbuttons** are taught-in on the FUD. Up to four brightness values are retrievable using a direct light scene pushbutton (pushbutton with double rocker, top left = light scene 1, top right = light scene 2, bottom left = light scene 3 and bottom right = light scene 4) and/ or using a sequential light scene pushbutton (pushbutton or one half of a double pushbutton, press top = next light scene, press bottom = previous light scene).

The LED on the side below the left rotary switch accompanies the teach-in process as described in the operation manual. It indicates control commands by short flickering during operation.

Technical data page T-1.

FUD70-230V

Wireless actuator – Universal dimmer switch

EAN 4010312301524

88,30 €/pc.

Wireless Actuator – Controller FSG70 for electronic ballast units 1-10 V



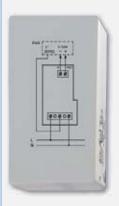
FSG70/1-10 V



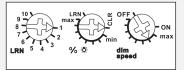








Function rotary switches on the side



Standard setting ex works.

Dimming actuator 1 channel, 1 NO contact not potential free 600 VA and 1-10 V control output 40 mA. 1.7 watts standby loss. With adjustable minimum brightness and dimming speed. With switching operation for light alarm clocks, children's rooms and snooze function.

Mounting in the 230V power supply cord, e.g. in false ceilings.

100 mm long, 50 mm wide and 25 mm deep.

State-of-the-art hybrid technology combines advantages of nonwearing electronic control.

Zero passage switching to protect contacts.

The brightness level is stored on switch-off (memory).

In case of a power failure the switch position and the brightness stage are stored and may be switched on when the power supply is restored.

The minimum brightness (fully dimmed) is adjustable with the %☼ rotary switch on the side. In the setting LRN up to 35 wireless pushbuttons can be assigned, of which one or more central pushbuttons.

The dimming speed is adjustable using the dimming speed rotary switch on the side.

The load is switched on and off by a bistable relay at output EVG. Switching capacity for fluorescent lamps or LV halogen lamps with EVG 600VA.

By using a bistable relay coil power loss and heating is avoided even in the on mode.

After installation, wait for short automatic synchronisation before the switched consumer is connected to the mains.

The pushbuttons can be taught-in either as direction switches or universal switches:

As a direction switch, press up is brighter and press down is darker respectively above short pressing means switch ON and below short pressing switch OFF. A double click above activates automatic updimming until full brightness with dim speed. A double click below activates snooze function. The children's room function will be realized with the upper switch.

As a universal switch, change the direction by briefly releasing the pushbutton. With switching operation for children's rooms and snooze function.

Switching for light alarm clocks: A wireless signal of a time clock which was taught-in accordingly starts the wake up function by switching on the light at the lowest brightness level and dims up slowly until the maximum level is reached. Dependent on the set dim speed the wake up time is between 30 and 60 minutes. The dimming process is stopped by tapping briefly. The contact of the timer must connect terminals +12 V and LW at least 0.2 seconds.

Switching operation for children's rooms: If the light is switched on by holding down the pushbutton (universal switch or direction switch above), it starts at the lowest brightness level after approx. I second and dims up slowly as long as the pushbutton is held down. The last saved brightness level is not modified.

Snooze function (universal switch or direction switch below): With a double impulse the lighting is dimmed down from the current dimming position to the minimum brightness level and switched off. The current dimming position as well as the adjustable minimum brightness level determine the dimming time (\max . = 60 minutes) which can be reduced as required. It can be switched off at any time by short-time control commands during the lighting is dimmed down.

The LED on the side below the left rotary switch accompanies the teach-in process as described in the operation manual. It indicates control commands by short flickering during operation.

Wireless Actuator for Shading Elements and Roller Shutters FSB70

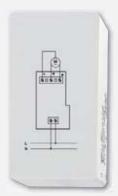
FSB70-230 V











Impulse group switch 1+1 NO contact not potential free 10 A/250 V AC, for roller blinds and shading systems. Bidirectional wireless and with repeater function. Only 0.6 watt standby loss.

Mounting in the 230V power supply cord, e.g. in false ceilings. 100mm long, 50mm wide and 25mm deep.

This wireless actuator is an impulse group switch and features state-of-the-art hybrid technology that we developed: we combined the wear-free receiver and evaluation electronics and two bistable relays with zero passage switching.

By using a bistable relay coil power loss and heating is avoided even in the on mode. After installation, wait for short automatic synchronisation before the switched consumer is connected to the mains.

Starting in production week 21/2012 with **bidirectional wireless**; in addition, a **repeater** function can be switched in. Every change in state and incoming central command telegrams are confirmed by a wireless telegram. This wireless telegram can be taught-in in other actuators, in the FVS software and in FUA55 universal displays.

With the middle rotary switch in the setting LRN up to 35 wireless pushbuttons can be assigned, of which one ore more central pushbuttons. Then the automatic turning system (WA) is set using the same rotary switch.

The required function of the actuator can then be selected with the right rotary switch:

- **GS1** = Group switch with pushbutton control and off delay in seconds. Both a wireless pushbutton with the function 'Up-Hold-Down-Hold' as well as the local pushbutton can be taught-in or a wireless pushbutton like a roller Venetian blind double pushbutton with pressing above 'Up' and pressing below 'Down'. Tap briefly to interrupt the movement immediately. **Dynamic central control with and without priority can be implemented.**
- **GS2** = Group switch same as GS1, central switch always without priority.
- **GS3** = Group switch same as GS2, in addition with double-click **reverse function** for a wireless pushbutton as universal switch taught-in appropriately: After double-clicking, the Venetian blind moves in the opposite direction until it is stopped by a brief tap.
- **GS4** = Group switch same as GS2, in addition with tip reverse function: The control pushbutton is initially in static mode. The relay is energised as long as the pushbutton is tapped so that the Venetian blind can be reversed in the opposite direction by short impulses.
- **GR** = Group relay. As long as the wireless pushbutton is closed, a contact is closed. Then it reopens. On reception of the next wireless signal the other contact closes, etc.

Shading scene control: Up to 4 saved 'Down' running times are retrievable using the control signal of a pushbutton and double rocker taught-in as a scene button or taught-in by a PC loaded with the FVS software.

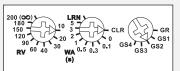
If a wireless outdoor brightness sensor FAH60 is also taught-in in addition to a scene pushbutton, the taught-in scenes 1, 2 and 4 are executed automatically depending on the outdoor brightness.

With the left rotary switch the off delay can be set in position 'Hold' in seconds. Therefore, the time delay must be chosen at least as long as the shading element or roller shutter will need to move from one limit position to the other.

When a wireless window/door contact FTK or Hoppe window handle is taught-in, a lock-out protection is set up while the door is open and disables a Central Down command.

The LED on the side below the left rotary switch accompanies the teach-in process as described in the operation manual. It indicates control commands by short flickering during operation.

Function rotary switches on the side



Standard setting ex works.

Technical data page T-1.

FSB70-230V

Wireless actuator Impulse group switch

EAN 4010312303207

79,60 €/pc.

Wireless Actuator Heating/Cooling Relay FHK70



FHK70-230V









1+1 NO contact not potential free $10\,\text{A}/250\,\text{V}$ AC, 2 channels. Only 0.9 watt standby loss.

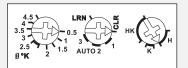
Mounting in the 230V power supply cord, e.g. in false ceilings. 100mm long, 50mm wide and 25mm deep.

This wireless actuator features state-of-the-art hybrid technology that we developed: we combined the wear-free receiver and evaluation electronics and two bistable relays with zero passage switching.

By using a bistable relay coil power loss and heating is avoided even in the on mode. After installation, wait for short automatic synchronisation before the switched consumer is connected to the mains.

This heating/cooling relay assesses information about wireless temperature controllers or sensors. Possibly supplemented by window/door contacts FTK, motion detectors FBH and Hoppe window handles.

Function rotary switches on the side



Standard setting ex works.

Left rotary switch for adjustable hysteresis:

Left stop: lowest hysteresis 0.5°.

Right stop: largest hysteresis 4.5°. Inbetween, divisions in steps of 0.5°.

Middle rotary switch for regulation types:

AUTO 1: With PWM control at T = 4 minutes. (PWM = pulse width modulation). (suitable for valves with thermoelectric valve drive)

AUTO 2: With PWM control at T = 15 minutes. (suitable for valves with motor-driven valve drive)

AUTO 3: With 2-point control.

Right rotary switch for operating modes:

H: heating mode (Contacts L-1 and L-2); K: cooling mode (Contacts L-1 and L-2);

HK: heating mode (Contact L-2) and cooling mode (Contact L-1)

Two-point control mode: The hysteresis rotary switch sets the required difference between the switch-on and switch-off temperatures. When the 'actual temperature >= reference temperature', the device is switched off. When the 'actual temperature <= (reference temperature – hysteresis)', the device is switched on. The signs are the opposite in cooling mode.

PWM control mode: The hysteresis rotary switch set the required temperature difference at which the device is switched on at 100%. When the 'actual temperature' >= reference temperature', the device is switched off.

When the 'actual temperature <= (reference temperature – hysteresis)', the device is switched on at 100%. If the 'actual temperature' lies between the 'reference temperature – hysteresis' and the 'reference temperature', the device is switched on and off with a PWM in steps of 10% depending on the temperature difference. The lower the temperature difference, the shorter the switch-on time. As a result of the settability of the 100% value, the PWM can be adapted to the heater size and inertia. The signs are the opposite in cooling mode.

In heating mode, the **frost protection function** is always enabled. As soon as the actual temperature drops below 8°C, the temperature is controlled in the selected operating mode to 8°C.

If one or several windows are open, the output remains off **provided the window/door contacts FTK or Hoppe window handles** are taught-in. In heating mode, however, the frost protection remains enabled.

As long as all taught-in **motion detectors FBH** detect no motion, the device is switched to setback mode. In heating mode, the reference temperature is set back by 2°; in cooling mode, it is raised by 2°. As soon as a motion detector signals movement again, the device is switched to normal mode.

When a **wireless pushbutton FT4** is taught-in, the assignment of the 4 keys is assigned with the following fixed functions: Top right: Normal mode (can also be enabled by timer). Bottom right: Night setback mode by 4°; in cooling mode, raised by 4° (can also be enabled by timer). Top left: Setback mode by 2°, in cooling mode, raised by 2°. Bottom left: Off (in heating mode, frost protection enabled; in cooling mode permanent off). If the motion detector and wireless pushbutton are taught-in at the same time, the last telegram received is always the one that is valid. A motion detector therefore switches off a setback mode selected by wireless pushbutton when a movement is detected.

The LED on the side below the left rotary switch accompanies the teach-in process as described in the operation manual. It indicates control commands by short flickering during operation.

Technical data page T-1.

FHK70-230V

Wireless actuator Heating/cooling relay

EAN 4010312304303

79,60 €/pc.

Wireless Actuator Fan Relay F2L70

F2L70-230 V

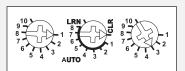








Function rotary switches on the side



Standard setting ex works.

2-speed fan actuator 1+1 NO contacts not potential free 10 A/250 V AC. Only 0.9 watt standby loss. Activates passive and active sensors.

Mounting in the 230V power supply cord, e.g. in false ceilings. 100mm long, 50mm wide and 25mm deep.

This wireless actuator features state-of-the-art hybrid technology that we developed: we combined the wear-free receiver and evaluation electronics and two bistable relays with zero passage switching.

By using a bistable relay coil power loss and heating is avoided even in the on mode. After installation, wait for short automatic synchronisation before the switched consumer is connected to the mains.

This fan relay evaluates the information of up to 23 passive sensors, e.g. wireless push-buttons, window/door contacts, Hoppe window handles or wireless transmitter modules. A single active sensor for ${\rm CO_2}$, humidity or temperature can be taught-in additionally or individually.

When the two contacts are switched in parallel, the 2-speed actuator for 2 fan speeds becomes an actuator for one fan.

The middle rotary switch must be set to position LRN for teach-in.

Set the required operating mode when the fan actuator is in operation.

During the teach-in process, adjust the **left rotary switch** to set the sensor type. A double rocker wireless pushbutton is taught-in in rotary switch position 1. The double rockers are assigned automatically: top left for Stage 1, top right for Stage 2. Bottom left and bottom right OFF, both contacts open. If you switch the two contacts in parallel, one wireless pushbutton and 1 rocker are sufficient. In this case, top is ON and bottom is OFF.

All passive sensors, such as wireless buttons and wireless transmitter modules, can be taught-in in rotary switch position 2. An active sensor can be taught-in in any teach-in position. Only one sensor can be taught-in.

When operated with an active sensor, use the right rotary switch to set the switch-on threshold. When the threshold is reached, stage 1 is switched on. Use the left rotary switch to set the addition value at which Contact 2 closes. The middle rotary switch sets one of the operating modes AUTO1 to AUTO8:

AUTO1 for manual mode of a 2-stage fan by means of a double rocker wireless pushbutton.

Each contact is closed separately (exclusive).

AUTO2 same as AUTO1, Contact 2 cuts in to switch Stage 2 (accumulative).

AUTO1 and AUTO2 cause both contacts to open in the case of passive sensors, such as wireless pushbuttons and transmitter modules which are taught-in as off-switches. As long as the control voltage is applied to transmitter modules or a window monitored by an FTK or Hoppe window handle is open, the contacts are open and can not be switched on manually.

AUTO3: Activating with wireless CO₂ sensor. The switch-on thresholds are set by the rotary switches on the right and left. The contacts close 'exclusively'.

AUTO4: Same as AUTO3, but activated by the wireless humidity sensor.

AUTO5: Same as AUTO3, but activated by the wireless temperature sensor.

AUTO6: Same as AUTO3, but the contacts close 'adding'.

AUTO7: Same as AUTO4, but the contacts close 'adding'.

AUTO8: Same as AUTO5, but the contacts close 'adding'.

The right and left rotary switches are used in conjunction with sensor activation AUTO3 to AUTO8 to set the switch-on thresholds for Contact 1 and to set accumulative values at which Contact 2 closes.

Overview of switch-on thresholds (right rotary switch):

CO₂ (ppm): 1 = 700 ppm; 2 = 800 ppm; 3 = 900 ppm; 4 = 1000 ppm; 5 = 1200 ppm; 6 = 1400 ppm; 7 = 1600 ppm; 8 = 1800 ppm, 9 = 2000 ppm and 10 = 2200 ppm.

Humidity (%): 1 = 10 %, 2 = 20 %, ... 10 = 100 %.

Temperature (°C): $1 = 20 \,^{\circ}\text{C}$, $2 = 22 \,^{\circ}\text{C}$, $3 = 24 \,^{\circ}\text{C}$, ... $10 = 38 \,^{\circ}\text{C}$.

Overview of addition values (left rotary switch):

CO₂ difference: 1 = 50 ppm, 2 = 100 ppm, 3 = 150 ppm, ... 10 = 500 ppm. Fixed hysteresis: 50 ppm.

Humidity difference: 1 = 5%, 2 = 10%, 3 = 15%, ... 10 = 50%. Fixed hysteresis: 5%.

Temperature difference (K): 1 = 1 K, 2 = 2 K, 3 = 3 K, ... 10 = 10 K. Fixed hysteresis: 1 K.

The LED on the side below the left rotary switch accompanies the teach-in process as described in the operation manual. It indicates control commands by short flickering during operation.

Technical data page **T**-1.

F2L70-230V Wireless actuator – Fan relay

EAN 4010312305225

Wireless Actuator – Time Relay for Card Switch or Smoke Alarm FZK70



FZK70-230 V



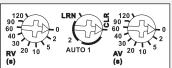








Function rotary switches on the side



Standard setting ex works.

1+1 NO contacts not potential free 10A/250V AC, incandescent lamps 2000 watts. Only 0.9 watt standby loss.

Off-delay and response lag are adjustable for one contact.

Mounting in the 230V power supply cord, e.g. in false ceilings. 100mm long, 50mm wide and 25mm deep.

This wireless actuator features state-of-the-art hybrid technology that we developed: we combined the wear-free receiver and evaluation electronics and a bistable relay.

By using a bistable relay coil power loss and heating is avoided even in the on mode. After installation, wait for short automatic synchronisation before the switched consumer is connected to the mains.

Use the left rotary switch RV to set the time delay time RV between 0 and 120 seconds for Contact L-2.

The middle rotary switch is required for teach-in. It is then used to set the response in case of a power failure. AUTO1 retains the switch position, AUTO2 carries out a defined switch-off.

Use **the right rotary switch AV** to set the response lag time AV between 0 and 120 seconds for Contact I-2

The AV and RV times permit the simple control of air conditioning systems with the wireless card switches FKF and FKC.

The response lag AV starts as soon as the hotel card/key card is inserted in the wireless card switch FKF and the time delay RV starts after the card is removed.

In addition to the wireless card switch FKF, wireless window/door contacts FTK and Hoppe window handles can also be taught in.

Opening a monitored window also starts the RV time. When the RV time expires, Contact L-2 opens. Closing all monitored windows starts the AV time. When the AV time expires, Contact L-2 closes.

Contact L-1 is provided for light switching and always switches immediately without AV/RV. To increase the switching capacity for one channel, outputs 1 and 2 can be bridged, provided no air conditioning control is required. Then AV and RV must be set to 0.

When motion detectors are taught in, the two channels switch on immediately motion is detected. If no motion is detected for 15 minutes, the two channels are switched off.

Several wireless smoke alarms FRW-ws are logically linked with this switch actuator time relay so that the RV time only starts after all FRW-ws devices have signalled alarm end.

Card switches and smoke alarms can not be operated together with an FZK device.

The LED on the side below the left rotary switch accompanies the teach-in process as described in the operation manual. It indicates control commands by short flickering during operation.

FKR70/1-10 V





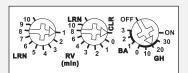








Function rotary switches on the side



Standard setting ex works.

Dimming actuator 1 channel, 1 NO contact not potential free 600 VA and 1-10 V control output 40 mA. 1.7 watts standby loss. Motion-dependent and brightness-dependent light control with the wireless motion/brightness sensor FBH.

Mounting in the 230V power supply cord, e.g. in false ceilings.

100mm long, 50mm wide and 25mm deep.

State-of-the-art hybrid technology combines advantages of nonwearing electronic control.

Zero passage switching to protect contacts.

The brightness level is stored on switch-off (memory).

In case of a power failure the switch position and the brightness stage are stored and may be switched on when the power supply is restored.

By using a bistable relay coil power loss and heating is avoided even in the on mode.

After installation, wait for short automatic synchronisation before the switched consumer is connected to the mains.

Function of FKR70

The wireless constant light controller FKR70 receives its signals from one or several wireless motion/brightness sensors FBH and then controls the 1-10V output or switches the light on or off.

3 operation modes **BA** can be selected:

- 1 = fully automatic (switch-on and switch-off is brightness and motion controlled),
- **2 = semi-automatic** (only switch-off is brightness and motion controlled) and
- **3 = switch-off is brightness controlled** (motion sensor is not active).

With one wireless pushbutton or wireless hand-held transmitter the automatic system can be overloaded to a preset value in order to dim the light for a beamer presentation, for example.

Several FBHs can be taught-in in a FKR70. As long as one of the motion detection sensors detects activity, the necessary lighting remains on and only after all FBHs report no activity for 1 minute does the adjustable time delay RV commence.

Only 1 FBH (Master) is used for the constant light control.

The FBHs can also be taught-in in several FKR70s. This not only allows an increase in the total switching capacity but also the set-up of zones with different brightness settings by setting different basic brightness values GH. Several independent FKR70 systems can be installed in one room simultaneously.

To teach-in wireless pushbuttons and wireless hand-held transmitters, one rocker is taught-in as direction switches.

Tap the bottom part to switch the light off. Press the top or bottom to dim up or down. This shifts the control automatic towards brighter or darker. A double tap on the bottom part dims down to the taught-in value 'Beamer Presentation'.

When the light is switched off and the top part is held down, the light is dimmed up from the lowest brightness level until the rocker is released. Resetting to automatic control is effected either by automatic light switch-off or by double-tapping the top direction switch.

The beamer value can additionally be taught-in in a further universal switch.

In addition to the beamer value the minimum brightness can be set and stored.

The left rotary switch LRN is required for teach-in and for setting the base brightness.

The middle rotary switch RV is set after teach-in to the required delay time from 0 to 10 minutes. There is also an additional 1 minute of FBH.

The base brightness **GH** dependent on use of the room is set **with the right rotary switch plus the left rotary switch** adding the adjusted values.

The smallest settable value is 1 (0+1), the largest value is 40 (30+10). The normal setting is approx. at 21.

The LED on the side below the left rotary switch accompanies the teach-in process as described in the operation manual. It indicates control commands by short flickering during operation.

Technical data page T-1.

FKR70/1-10V

Wireless actuator
Controller for electronic ballast units

EAN 4010312304327

89,80 €/pc.

Wireless Actuator – Constant Light Controller FKR70UD with Universal Dimmer Switch



FKR70UD-230V



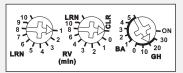








Function rotary switches on the side



Standard setting ex works.

Power MOSFET up to 400 W, ESL up to 100 W and LED up to 100 W. Only 0.6 watt standby loss. Motion-dependent and brightness-dependent light control of dimmable energy saving lamps ESL and 230 V LED lamps, incandescent and halogen lamps with the wireless motion/brightness sensor FBH or wireless outdoor brightness sensor FAH.

Mounting in the 230V power supply cord, e.g. in false ceilings.

100mm long, 50mm wide and 25mm deep.

Universal dimmer switch for R, L and C loads up to 400 watts, depending on ventilation conditions. Dimmable energy saving lamps ESL up to 100 watts and dimmable 230V LED lamps up to 100 watts. Automatic detection of load R+L or R+C. ESL and LED manually settable.

Zero passage switching with soft ON and soft OFF to protect lamps.

The brightness level is stored on switch-off (memory).

In case of a power failure the switch position and the brightness stage are stored and may be switched on when the power supply is restored.

Automatic electronic overload protection and overtemperature switch-off.

The wireless constant light controller receives its information from one or several wireless sensors FAH or FBH and then controls the output or switches the light on or off. Since incandescent lamps and halogen lamps have a large infrared percentage like daylight, these lamps can only be controlled by measuring the brightness outside the building by a wireless outdoor brightness sensor FAH acting as master. Motion detection takes place inside the room by a FBH acting as slave. Dimmable energy saving lamps and LED require only a FBH inside the room for brightness control and motion detection.

Operating modes BA are taught-in: 1 = fully automatic ESL (for brightness-dependent and motion-dependent switch-on and switch-off of ESL), 2 = semiautomatic ESL (only for brightness-dependent and motion-dependent switch-off of ESL), 3 = switch-off of ESL is brightness-dependent (only for brightness-dependent switch-off of ESL, the motion sensor inside the FBH is then inactive), 4 = fully automatic incandescent/ halogen lamps, 5 = semiautomatic incandescent/halogen lamps, 0 = fully automatic 230 V LED lamps (dimming curve 1), 10 = semiautomatic 230 V LED lamps (dimming curve 2) = fully automatic 230 V LED lamps (dimming curve 2).

With one wireless pushbutton or wireless hand-held transmitter the automatic system can be overloaded to a preset value in order to dim the light for a beamer presentation, for example. Several FBHs can be taught-in in a constant light controller. As long as one of the motion detection

several FBHs can be laught-in in a constant light controller. As long as one of the motion detectors sensors detects activity, the necessary lighting remains on and only after all FBHs report no activity for 1 minute does the adjustable time delay RV commence.

Only a FBH in operation mode BA 1, 2 or 3, otherwise a FAH provides constant light control. The FBHs and FAHs can also be taught-in in several constant light controllers. This not only allows an increase in the total switching capacity but also the set-up of zones with different brightness settings by setting different basic brightness values GH. Several independent constant light controller systems can be installed simultaneously.

To teach-in wireless pushbuttons and wireless hand-held transmitters, one rocker is taught-in as direction switches.

Tap the bottom part to switch the light off. Press the top or bottom to dim up or down. This shifts the control automatic towards brighter or darker. A double tap on the bottom part dims down to the taught-in value 'Beamer Presentation'. When the light is switched off and the top part is held down, the light is dimmed up from the lowest brightness level until the rocker is released. Resetting to automatic control is effected either by automatic light switch-off or by double-tapping the top direction switch. The beamer brightness can additionally be taught-in in a further universal switch.

In addition to the beamer brightness the minimum brightness can be set and stored. The left rotary switch LRN is required for teach-in and for setting the base brightness.

The middle rotary switch RV is set after teach-in to the required delay time from 0 to 10 minutes, provided a FBH is available. There is also an additional 1 minute of FBH. The base brightness GH dependent on use of the room is set with the right rotary switch plus the upper rotary switch adding the adjusted values. The smallest settable value is 1 (0+1), the largest value is 40 (30+10). The normal setting is approx. at 21.

The LED on the side below the left rotary switch accompanies the teach-in process as described in the operation manual. It indicates control commands by short flickering during operation.

FKR70UD-230V

Wireless actuator – Constant light controller with universal dimmer switch

EAN 4010312304518

89,80 €/pc.



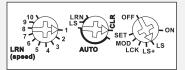








Function rotary switches on the side



Standard setting ex works.

5-28

Dimming actuator 1 channel, 1 NO contact not potential free 600 VA and 1-10 V control output 40 mA. Only 1.7 watt standby loss.

Stores up to 40 light scenes for a fluorescent lamp group with 1-10 V ballasts. Also with light scene control by PC or wireless pushbuttons.

Mounting in the 230V power supply cord, e.g. in false ceilings.

100 mm long, 50 mm wide and 25 mm deep.

State-of-the-art hybrid technology combines advantages of nonwearing electronic control with high switching capacity of special relays.

Zero passage switching to protect contacts.

The brightness level is stored on switch-off (memory).

In case of a power failure the switch position and the brightness stage are stored and may be switched on when the power supply is restored.

By using a bistable relay coil power loss and heating is avoided even in the on mode.

After installation, wait for short automatic synchronisation before the switched consumer is connected to the mains.

Function of FLS70/1-10V

All FLS70's in a room can be switched in series to obtain light scenes. The brightness of each lamp group is manually adjustable and the entire light scene can then be taught-in. Up to 40 light scenes are programmable.

Up to 10 light scenes are retrievable sequentially with only one pushbutton.

Up to 30 additional light scenes are directly retrievable with single assigned pushbuttons. Each FLS70 or FLS70 groups can also be switched and dimmed individually with direction switches. There are a total of 35 inputs on each FLS70 for light scene and individual pushbuttons. Retrieving a light scene overrides an individual setting.

The same function as a light scene pushbutton has an associated taught-in wireless transmitter module FSM12 or FSM61. Specific light scenes can then be retrieved with event-dependent or time-dependent control.

Motion detection with taught-in wireless motion detector FBH. The light switches off automatically after 15 minutes provided no more motion is detected.

Light scenes on the PC are set and retrieved using the Wireless Visualisation and Control Software FVS. One or several FLS70 devices must be taught in on the PC as dimming switches with percentage brightness values.

Lights scenes with wireless pushbuttons are taught in on the FLS70 device. Either four sequentially retrievable brightness values (press up = next light scene, press down = previous light scene) and/or up to four brightness values taught in a light scene pushbutton with double

The LED on the side below the left rotary switch accompanies the teach-in process as described in the operation manual. It indicates control commands by short flickering during operation.

Wireless Actuator – Light Scene Controller FLS70UD with Universal Dimmer Switch



FLS70UD-230V



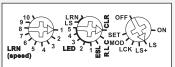








Function rotary switches on the side



Standard setting ex works.

Power MOSFET up to 400 W, ESL up to 100 W and LED up to 100 W. Only 0.6 watt standby loss. Stores up to 40 light scenes for a group of dimmable energy saving lamps ESL 230 V LED lamps, incandescent lamps and halogen lamps. Also with light scene control by PC or wireless pushbuttons.

Mounting in the 230 V power supply cord, e.g. in false ceilings.

100mm long, 50mm wide and 25mm deep.

Universal dimmer switch for R, L and C loads up to 400 watts. Dimmable energy saving lamps ESL up to 100 watts and dimmable 230V LED lamps up to 100 watts.

Zero passage switching with soft ON and soft OFF to protect lamps.

The brightness level is stored on switch-off (memory).

In case of a power failure the switch position and the brightness stage are stored and may be switched on when the power supply is restored.

Automatic electronic overload protection and overtemperature switch-off.

Function of FLS70UD-230V

All FLS in a room can be switched in series to obtain light scenes. The brightness of each lamp group is manually adjustable and the entire light scene can then be taught-in. Up to 40 light scenes are programmable. Up to 10 light scenes are retrievable sequentially with only one pushbutton. Up to 30 additional light scenes are directly retrievable with single assigned pushbuttons.

Each FLS or FLS groups can also be switched and dimmed individually with direction switches. There are a total of 35 light scene and individual pushbuttons on each FLS. Retrieving a light scene overrides an individual setting.

A wireless transmitter module FSM12 or FSM61 appropriately taught-in has the same function as a light scene switch. Specific light scenes can then be retrieved with event-dependent or time-dependent control.

Position R, L, C is the setting for all load types except for ESL and LED. In particular for 230V glow and halogen lamps. The load type, inductive or capacitive, is detected automatically.

The setting ESL considers the special conditions regarding dimmable energy saving lamps: The starting operation is optimized and adapted to the dimming curve. In this setting no wound (inductive) transformer must be dimmed.

The position LEDs take account of special conditions with dimmable 230V LED lamps: A number of different dimming curves are available. An updated list with dimming curve assignment for commercially available dimmable 230V LED lamps is ready for downloading at **www.eltako.com/dimming_curve/LED_gb.pdf.** In these settings no wound (inductive) transformer must be dimmed.

Motion detection with taught-in wireless motion detector FBH. The light switches off automatically after 15 minutes provided no more motion is detected.

Light scenes on the PC are set and retrieved using the Wireless Visualisation and Control Software FVS. One or several FLS70UD devices must be taught in on the PC as dimming switches with percentage brightness values.

Lights scenes with wireless pushbuttons are taught in on the FLS70UD device. Either four sequentially retrievable brightness values (press up = next light scene, press down = previous light scene) and/or up to four brightness values taught in a light scene pushbutton with double rocker.

The LED on the side below the left rotary switch accompanies the teach-in process as described in the operation manual. It indicates control commands by short flickering during operation.

Wireless Actuator Gong Module FGM

FGM





Wireless gong module for fitting in the 3xAA battery compartment. Only 0.5 watt standby loss.

52 mm long, 42 mm wide and 16 mm deep.

This gong module is suitable for all gongs that can be powered with 3 pieces AA batteries or with 8 to 12 V UC transformer connection and activated by one contact.

The gong module FGM also fits in the much larger battery compartment for 3 or 4 pieces baby cells.

The gong module is placed in the battery compartment in accordance with the operating instructions and connected to the gong terminals.

The gong is powered by a switch mode power supply unit FSNT61-230 V/12 V DC which is fitted in a flush-mounted wall socket behind the gong and requires a 230 V connection.

A rotary switch is located on the circuit board for teach-in.

Normal switches can also be connected to the appropriate gong terminals.

In addition to one or several wireless switches, wireless window/door contacts FTK, motion detector/brightness sensors FBH and Hoppe window handles can be taught in.

The rotary switch is required for teach-in and is then set to AUTO (right stop).

The LED performs during the teach-in process according to the operation manual. It shows wireless control commands by short flickering during operation.

Examples of suitable gongs:

Friedland D844 and D525S Grothe Croma 100

FGM

Wireless actuator Gong module

EAN 4010312303290

54,90 €/pc.



FSNT61-12V/6W







Rated capacity 6W. Standby loss 0.1 watt only.

For installation. 45 mm long, 55 mm wide, 33 mm deep.

Input voltage 230V (-20% up to +10%). Efficiency 81%.

Stabilised output voltage ±1%, low residual ripple. Short-circuit proof.

Overload protection and over-temperature switch-off by means of swichting off with automatic switching-on after fault clearance (autorecovery function).

FSNT61-12V/6W EAN 4010312313145 **30,00 €/pc.**

Switching Actuators and Dimming Actuators as Cord Switches, Actuators Universal Display and Small Actuator





Wireless actuator impulse switch with integr. relay function FSR70S as cord switch	6-0
Wireless actuator universal dimmer switch FUD70S as cord switch	6-1
Wireless actuator universal display with LED FUA55LED	6-2
Wireless actuator small actuator FKS	6-3

Wireless Actuator Impulse Switch with integr. relay function FSR70S

FSR70S-230 V





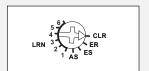






FSR70S-230 V-an

Function rotary switch on the side



Standard setting ex works.

1 NO contact not potential free 10 A/250 V AC, incandescent lamps up to 2000 watts, energy saving lamps ESL up to 200 W. Only 0.8 watt standby loss.

Installation in the 230V power supply cord of standard lamps and bedside lights. 100mm long, 50mm wide and 25mm deep.

Supplied colours: pure white, black and anthracite.

This wireless actuator is an impulse switch with integrated relay function and features state-of-the-art hybrid technology that we developed: we combined the wear-free receiver and evaluation electronics and a bistable relay with zero passage switching.

By using a bistable relay coil power loss and heating is avoided even in the on mode.

With the rotary switch on the side in the settings LRN up to 35 wireless pushbuttons can be assigned, of which one or more central control pushbuttons. In addition, wireless motion/brightness sensor FBH and/or a wireless outside brightness sensor FAH for a presence simulation. The required function of the impulse switch with integrated relay function can then be selected:

ES = Impulse switch

After the FBH is taught-in, the device switches on when movement is detected and, after an additional FAH is taught-in, at twilight and when movement is detected.

If no movement is detected, the contact opens after a 4 minute delay. A wireless switch can only be taught-in additionally to activate or deactivate presence simulation.

ER = Switching relay

When FAH is taught-in, the device switches on at twilight.

The contact opens after a 4 minute delay when brightness is detected.

AS = Presence simulation

The AS starts with a random pause time of 20 to 40 minutes followed by a random switch-on time of 30 to 120 minutes.

When the rotary switch is turned to AS or when the line voltage is switched on in AS position, the light switches on for 5 seconds after 1 second.

When the FAH is taught-in, the AS only starts when twilight commences.

After the FAH detects brightness, the AS ends after 4 minutes.

The LED on the side below the left rotary switch accompanies the teach-in process as described in the operation manual. It indicates control commands by short flickering during operation.

Technical data page T-1.

FSR70S-230V-rw FSR70S-230V-sz FSR70S-230V-qn Impulse switch with integr. relay function pure white Impulse switch with integr. relay function black Impulse switch with integr. relay function anthracite

EAN 4010312301487 EAN 4010312301494 EAN 4010312301500 70,30 €/pc. 70,30 €/pc. 70,30 €/pc.

Wireless Actuator Universal Dimmer Switch FUD70S as cord switch



FUD70S-230 V





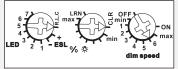






FUD70S-230 V-rw

Function rotary switches on the side



Standard setting ex works.

Universal dimmer switch, Power MOSFET 400W, ESL up to 100W and LED up to 100W. Only 0.6 watt standby loss.

With adjustable minimum or maximum brightness and dimming speed. With switching operation for light alarm clocks, children's rooms and snooze function. Also with light scene control by PC or wireless pushbuttons.

Installation in the 230V power supply cord of standard lamps and bedside lights. 100mm long, 50mm wide and 25mm deep.

Supplied colours: pure white, black and anthracite.

Universal dimmer switch for R, L and C loads up to 400 watts. Dimmable energy saving lamps ESL up to 100 watts and dimmable 230V LED lamps up to 100 watts...

Zero passage switching with soft ON and soft OFF to protect lamps.

The brightness level is stored on switch-off (memory).

In case of a power failure the switch position and the brightness stage are stored and may be switched on when the power supply is restored.

Automatic electronic overload protection and overtemperature switch-off.

The left rotary switch on the side is first required for teach-in and in operation, it defines what load type the dimming curve should be set to:

Position R, L, C is the setting for all load types except for ESL and LED. In particular for 230V glow and halogen lamps. The load type, inductive or capacitive, is detected automatically. The settings +ESL and -ESL consider the special conditions regarding dimmable energy saving lamps: The starting operation is optimized and adapted to the dimming curve. In these settings the special switching operation for children's rooms is not possible and no wound (inductive) transformer must be dimmed. In position - ESL Memory is switched off. This can be of advantage for energy saving lamps because cold energy saving lamps require a higher minimum brightness as it will possibly be stored in Memory for warmer energy saving lamps.

The position LEDs take account of special conditions with dimmable 230V LED lamps: A number of different dimming curves are available. An updated list with dimming curve assignment for commercially available dimmable 230V LED lamps is ready for downloading at www.eltako.com/dimming_curve/LED_gb.pdf. In these settings no wound (inductive) transformer must be dimmed.

The minimum brightness (fully dimmed down) or maximum brightness (fully dimmed up) is adjustable with the middle %. rotary switch on the side. In the setting LRN up to 30 pushbuttons can be assigned, of which one or more central pushbuttons.

The dimming speed is adjustable using the right dimming speed rotary switch on the side.

At the same time, the soft ON and soft OFF periods are changed.

The wireless pushbuttons can be taught-in either as direction switches or universal switches:

When installed as a direction switch, one side is then 'switch on and dim up' and the other side is 'switch off and dim down'. A double-click on the switch-on side activates automatic dim-up to full brightness at dim speed. A double click on the switch-off side activates the snooze function. The children's room function is implemented on the switch-on side. As a universal switch, change the direction by briefly releasing the pushbutton. With switching operation for children's rooms and snooze function.

Switching for light alarm clocks: A wireless signal of a time clock which was taught-in accordingly starts the wake up function by switching on the light at the lowest brightness level and dims up slowly until the maximum level is reached. Dependent on the set dim speed the wake up time is between 30 and 60 minutes. The dimming process is stopped by tapping briefly, e.g. on the handheld transmitter. At setting ESL the switching for light alarm clocks is not possible.

Switching operation for children's rooms (universal switch or direction switch on the switch-on side): If the light is switched on by holding down the pushbutton, it starts at the lowest brightness level after approx. I second and dims up slowly as long as the pushbutton is held down. The last saved brightness level is not modified.

Snooze function (universal switch or direction switch on the switch-off side): With a double impulse the lighting is dimmed down from the current dimming position to the minimum brightness level and switched off. The current dimming position as well as the adjustable minimum brightness level determine the dimming time (max. = 60 minutes) which can be reduced as required. It can be switched off at any time by short-time control commands during the lighting is dimmed down.

Light scenes on the PC are set and retrieved using the Wireless Visualisation and Control Software FVS. A description of the FVS is in Chapter V. One or several FUD70 devices must be taught in on the PC as dimming switches with percentage brightness values. Lights scenes with wireless pushbuttons are taught-in on the FUD. Up to four brightness values are retrievable using a direct light scene pushbutton (pushbutton with double rocker, top left = light scene 1, top right = light scene 2, bottom left = light scene 3 and bottom right = light scene 4) and/ or using a sequential light scene pushbutton (pushbutton or one half of a double pushbutton, press top = next light scene, press bottom = previous light scene).

The LED on the side below the left rotary switch accompanies the teach-in process as described in the operation manual. It indicates control commands by short flickering during operation. Technical data page **T**-1.

FUD70S-230V-rw	Universal dimmer switch pure white	EAN 4010312301395	88,30 €/pc.
FUD70S-230V-sz	Universal dimmer switch black	EAN 4010312301401	88,30 €/pc.
FUD70S-230V-an	Universal dimmer switch anthracite	EAN 4010312301418	88,30 €/pc.

Wireless Actuator Universal Display with LED FUA55LED

FUA55LED





Universal display with 10 LEDs for individual fitting and integration in the $55x55 \,\text{mm}$ and $63x63 \,\text{mm}$ switch system. Standby loss 0.8 watt only.

The scope of supply includes a frame R, an intermediate frame ZR in the same colour and a mounting plate. In addition, an intermediate frame ZRF in the same colour is supplied for installation in an existing frame R1F, R2F or R3F for flat pushbuttons.

Supply voltage 230 V.

A 20cm long black/blue connecting wire is routed to the rear.

Before screwing on, remove the frame and intermediate frame from the mounting plate. To do this, press out the catches on the mounting plate. Then screw on the mounting plate - with the catches at the top and bottom -, snap on the frame and the intermediate frame, and connect and snap on the universal indicator.

We recommend sheet metal countersink screws 2.9x25 mm, DIN 7982 C, for screw connections on 55 mm switch boxes. See Accessories on page Z-4.

Since all LED displays can be taught in individually or together, universal displays are possible. Up to 4 sensors can be taught-in in an LED display.

Position display with single LED

The numbered LEDs can be taught in individually to indicate the position of up to 10 windows, doors, roller shutters, shading elements and lights as well as for room surveillance with FBH. Either with window/door contacts, Hoppe window handles, relay outputs, motion detectors or the new bidirectional actuators with switch position feedback. In addition, wireless pushbuttons and hand-held transmitters can be taught-in.

A light sensor controls the brightness of the LEDs depending on the ambient brightness. In addition, the small rotary switch underneath the LEDs influence the automatic brightness control: starting from middle position, turn to the left = darker, turn to the right = brighter. Automatic control is switched off in the end positions.

Call signals with all LEDs

Two different call signals can be taught in: 'all LEDs blinking simultaneously' and 'all LEDs flowing in a circle'. If both light alerts occur simultaneously, then the two semicircles blink alternately.

A time delay can also be taught in using these call signals in order to display a short door.

A time delay can also be taught in using these call signals in order to display a short door bell contact for a long time, for example.

Acknowledge light call signals

If a call is initiated via a wireless transmitter FMH2S-wr on the carry strap, the call can be cleared by a wireless pushbutton taught-in as an 'acknowledgement button'.

FUA55LED-ws	Universal display with LED white	EAN 4010312303689	72,30 €/pc.
FUA55LED-rw	Universal display with LED pure white	EAN 4010312303696	72,30 €/pc.
FUA55LED-sz	Universal display with LED black	EAN 4010312303702	72,30 €/pc.
FUA55LED-wg*	Universal display with LED pure white glossy	EAN 4010312303719	72,30 €/pc.
FUA55LED-al	Universal display with LED coated/aluminium paint	EAN 4010312310755	81,10 €/pc.

Wireless Actuator Small Actuator FKS



FKS





The valve lower part depicted is not included in the scope of delivery.

Wireless small actuator MD15-FtL-HE from kieback&peter for radiators. No wires since it is battery powered. Low standby losses.

Room temperature control for constant control in conjunction with clock thermostat FUT55D. **Fitted to customary radiator valves made by numerous manufacturers.**

The small actuator is powered by 3 alkaline Mignon Type AA batteries that have a service life of up to 3 years. Energy-saving technologies and sophisticated engineering ensure very low power consumption.

Battery monitoring:

The battery capacity is monitored continuously. A low battery capacity is signaled acoustically with short beeps every 6 hours. The remaining capacity of the batteries is then <10%. If the battery voltage drops further, take the safety position, the small actuator occupys the safety position of 50% unlocked.

The reference temperature is set on the FUT55D as well as the switching times for heat reduction at night.

Teaching-in of FUT55D in a FKS:

By pressing the pushbutton located under the removable cover for about 1 second a ready to be taught-in FUT55D will be taught-in into a FKS according to the operating manual. The status LED lights up briefly and an acoustic signal is emitted.

After the taught-in confirmation of the FUT55D the LED lights up for 2 seconds and 2 beeps

Communication test:

With the pushbutton located under the hood a communication test can be performed manually. By pressing this pushbutton for 2 seconds the wireless link to the FUT55D will be checked. A successful communication is acknowledged by the status LED about 3 seconds after the button is released and by a beep.

Wireless interface:

The wireless communication with the FUT55D is cyclical (wireless cycle approximately every 10 minutes). At the same time the entire wireless protocol will be sent to the FUT55D and values of the FUT55D will be received.

Energy hold (automatic identification 'window open'):

With the window open, the heat energy supply for the room is interrupted. An open window will be detected by a strong and rapid temperature drop at the small wireless actuator FKS. This then closes the valve for 30 minutes, then the small actuator FKS returns to normal operation and the function 'energy hold' is active again.

If window contacts FTK are taught-in in the FUT55D, the temperature reduction is controlled by the FTK.

Anti-freeze function:

If the temperature at the internal temperature measuring transducer drops below 6°C, the small wireless actuator opens the valve as long as 8°C will be reached.

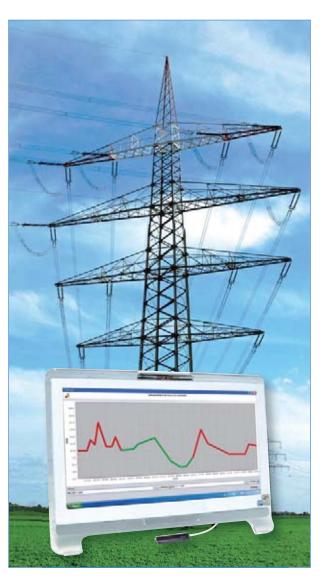
Emergency operation:

An integrated temperature controller is activated when no wireless telegram is received. With the integrated temperature measuring transducer (actual value) and the integrated control function of the actuator it will be regulated to a fixed setpoint of 20°C.

Without adapter on valves with M30x1.5 connection thread made by Heimeier, Honeywell-MNG, Junkers, TA, Honeywell-Bankmann, Oventrop (2001 or later), Cazzaniga etc.

FKS Small actuator EAN 4010312311103 **145,00 €/pc.**





Smart metering with the Eltako Wireless Building	7-0
Wirless energy consumption indicator FEA55LED with LED	7-1
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Smart metering with the Eltako Wireless Building

Observing power consumption is a recognised way to sharpen awareness about energy consumption and to realise how consumers are driving up costs at what time of the day. If automatic countermeasures are taken - e.g. appliances with high consumption are only switched on at low tariff periods - this knowledge and the corresponding efforts take on a practical ecological and economic purpose.

Eltako Wireless Building offers Smart Metering in several stages. From a low-cost solution in the home up to a professional solution in large buildings for genuine energy management.

Stage 1 in a home

A FWZ single-phase energy meter transmitter module in a circuit measures power consumption and sends wireless telegrams to the Eltako wireless network. We manufacture transmitter modules such as FWZ12 rail mounted devices for central installation up to 16A and 65A, or the FWZ61 build-in device for decentralised installation up to 16A.

An FEA55LED energy consumption indicator receives these wireless telegrams and displays realtime consumption and normal rate / off-peak by LEDs.



Stage 2 in a home

Consumption measurement as for Stage 1. A FEA55D digital energy consumption indicator with display and a memory for consumption parameters receives the wireless telegrams. Realtime consumption and accumulated consumption are displayed constantly. The consumption over the past hours, days, months and years is also retrievable.



Stage 3 in a home or a building

Power consumption is queried directly from the energy meters via their SO interfaces and sent over the Eltako wireless network by an FSS12 energy meter transmitter module. An integrated load shedding relay can switch off consumers if a preset consumption is exceeded.

Energy consumption in Stages 1 and 2 can be indicated by a FEA55 or by means of the FVS-Energy FVS Wireless Visualisation and Control Software or the FVS of the FVS-Safe. FVS-Energy is downloadable free of charge from the Eltako website.



Stage 4 in all residential, office and commercial buildings

Up to 30 energy meters in a group can be connected by their S0 interfaces to the FPZ12 wireless Powernet meter connector. Up to 3 meters per FPZ12. These FPZ12s transmit meter information over the power mains (Powernet). This information can be read out with other FPZ12s at any point in the internal building power mains and either transmitted over the Eltako wireless network or directly sent via an USB connection to FVS-Safe.

The data is displayed, evaluated and stored using the FVS Wireless Visualisation and Control Software of the FVS-Safe server. This can also be performed by FEA55 energy consumption displays in individual homes, departments or machine locations.



Direct display with the Wireless Energy Consumption Indicator FEA55LED



Smart Metering is so cost-effective and incurs no follow-on costs:

The Energy Consumption Indicator EVA12 (page 7-4) displays the current active current consumption in the control cabinet or distributor. They save the consumption figures in non-volatile memories that are viewable at any time. The Wireless Energy Consumption Indicators FEA55LED and FEA55D show directly the wireless readings of an Energy Meter Transmitter Module FSS12 (pages 7-3), FWZ12 (pages 7-5) or FWZ61 (pages 7-6). The Energy Consumption Indicator with Display FEA55D saves the values in the same way as the EVA12.

Only the Wireless Visualisation and Control Software FVS on your PC can evaluate several meters. FVS Energy and FVS Home can evaluate up to 100 meters and FVS Professional up to 250 meters.

FEA55LED-





Wirless energy consumption indicator with 10 red LEDs for individual fitting and integration in the $55x55\,\text{mm}$ and $63x63\,\text{mm}$ switch system. Standby loss 0.8 watt only.

The scope of supply includes a frame R, an intermediate frame ZR in the same colour, a mounting plate and an adhesive film. In addition, an intermediate frame ZRF in the same colour is supplied for installation in an existing frame R1F, R2F or R3F for flat pushbuttons. Power supply 230 V.

A 20cm long black/blue connecting wire is routed to the rear.

Before screwing on, remove the frame and intermediate frame from the mounting plate. To do this, press out the catches on the mounting plate. Then screw on the mounting plate - with the catches at the top and bottom -, snap on the frame and the intermediate frame, and connect and snap on the energy consumption indicator.

We recommend sheet metal countersink screws 2.9x25mm, DIN 7982 C, for screw connections on 55mm switch boxes. See Accessories on page Z-4.

The energy consumption indicator evaluates the information received from the wireless energy meter transmitter module FSS12 or the wireless single-phase energy meters FWZ12- or FWZ61-16A or from a wireless impulse switch with integrated relay function with active current meter FSR70W-16A respectively with power measurement FSR61VA-10A and indicates the current energy consumption by a row of LEDs.

The normal rate and off-peak status are also displayed by the FSS12.

The 15 W to 30 kW reading is adaptable to maximum expected consumption using a rotary switch to visualise even minor changes. There are 5 ranges to choose from, starting on the left with 1, 3, 7, 15 and 30 kW. On the energy consumption indicator, a maximum of 5 out of 10 LEDs light up simultaneously, and the last clockwise LED lights up the brightest. If one range setting is exceeded, the last LED flashes.

A light sensor controls LED brightness depending on the ambient brightness.

FEA55LED-ws	Energy consumption indicator with LED white	EAN 4010312302750	74,90 €/pc.
FEA55LED-rw	Energy consumption indicator with LED pure white	EAN 4010312302774	74,90 €/pc.
FEA55LED-sz	Energy consumption indicator with LED black	EAN 4010312302798	74,90 €/pc.
FEA55LED-an	Energy consumption indicator with LED anthracite	EAN 4010312302828	74,90 €/pc.
FEA55LED-wg*	Energy consumption indicator with LED pure white glossy	EAN 4010312302804	74,90 €/pc.
FEA55LED-si*	Energy consumption indicator with LED silver grey glossy	EAN 4010312304631	74,90 €/pc.
FEA55LED-al	Energy consumption indicator with LED coated/aluminium paint	EAN 4010312310779	83,70 €/pc.
FEA55LED-sg*	Energy consumption indicator with LED black glossy	EAN 4010312310786	83,70 €/pc.

Direct display with the Wireless Energy Consumption Indicator FEA55D

FEA55D-





Wirless energy consumption indicator with display for individual fitting and integration in the $55x55\,\text{mm}$ and $63x63\,\text{mm}$ switch system. Standby loss 0.8 watt only.

The scope of supply includes a frame R, an intermediate frame ZR in the same colour, a mounting plate and an adhesive film. In addition, an intermediate frame ZRF in the same colour is supplied for installation in an existing frame R1F, R2F or R3F for flat pushbuttons. Power supply 230 V.

A 20cm long black/blue connecting wire is routed to the rear.

Before screwing on, remove the frame and intermediate frame from the mounting plate. To do this, press out the catches on the mounting plate. Then screw on the mounting plate - with the catches at the top and bottom -, snap on the frame and the intermediate frame, and connect and snap on the energy consumption indicator.

We recommend sheet metal countersink screws 2.9x25mm, DIN 7982 C, for screw connections on 55mm switch boxes. See Accessories on page Z-4.

The energy consumption indicator evaluates the information received from the wireless energy meter transmitter module FSS12 or the wireless single-phase energy meters FWZ12 or FWZ61 and indicates alternately at a rate of 4 seconds the aggregate power consumption and the momentary power consumption (P at the end of the display) from 15 W to 65 kW. In addition, press the MOD and SEL buttons to call up consumption values in the last hours, days, months and years.

The normal rate and off-peak status are also displayed on the FSS12 by an LED.

Display readings

The standard display appears after power is applied.

The power consumption is displayed alternating for a duration of 4 seconds. The reading, comprising 7 digits of which there is one decimal place, ranges from 0.1 to 999999.9kWh or the actual value of the power consumption from 15P to 65000P (active power) in watts (W).

Press the top button MOD to page through the display options. They are indicated by a bar: h (hours), d (days), m (months), y (years), LRN.

Press the bottom button SEL within the display options. Each press of the button increments the number displayed by 1 and the actual value is indicated in the display. The last full hour then becomes the last hour but one, etc.

h01 =shows the consumption for the last hour up to h24 = 24 hours ago.

d01 =shows the consumption for the last day up to d31 = 31 days ago.

m01 = shows the consumption for the last month up to m12 = 12 months ago.

y01 = shows the consumption for the last year up to y24 = 24 years ago.

The program returns to the standard display mode automatically if MOD or SEL are not operated for 20 seconds or if you press both buttons briefly simultaneously.

LEWOOD-M2
FEA55D-rw
FEA55D-wg*
FEA55D-al

EEAEED WO

Energy consumption indicator with display white
Energy consumption indicator with display pure white
Energy consumption indicator with display pure white glossy
Energy consumption indicator with display coated/aluminium paint

EAN 4010312302675 EAN 4010312302699 EAN 4010312302729 EAN 4010312310809 60,90 €/pc. 60,90 €/pc.

60,90 €/pc. 69,70 €/pc.

Wireless Visualisation and Control Software FVS-Energy



Radio telegrams from the wireless energy meter transmitter module FSS12 and the self-learning wireless single-phase energy meter transmitter modules FWZ12 and FWZ61 can be received and displayed on a PC using the **Wireless Visualisation and Control Software FVS-Energy** and the USB receiver FAM-USB. Caution! The FVS-Energy software is contained in the Wireless Visualisation Software FVS-Home and FVS-Professional and need not be installed separately.

FVS-Energy





Free-of-charge wireless visualisation and control software for up to 100 energy meters with energy meter transmitter module FSS12.

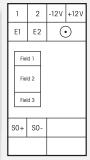
The software is ready for downloading at "eltako-wireless.com". Updates will also be available there free of charge.

The wireless receiver FAM-USB with USB port is also required for PC reception and if required for transmitting wireless telegrams from a PC to load shedding relays in addition. A web license is necessary.

FSS12-12 V DC

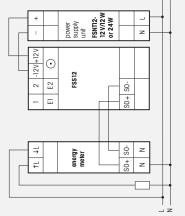






The enclosed small antenna can be replaced with a wireless antenna FA250 or FA200 with magnetic base and cable.

Typical connection



Wireless Energy meter transmitter module for connection to SO interface of the Eltako single-phase energy meter and three-phase energy meter. Only 0.5 watt standby loss. With load shedding relay 1 NO contact potential free 4A/250V and with exchangeable antenna. If required, a wireless antenna FA250 can be connected.

Modular device for DIN-EN 60715 TH35 rail mounting. 2 modules = 36 mm wide, 58 mm deep. The energy meter transmitter module FSS12 evaluates the signals from the energy meter S0 interface and transmits wireless telegrams containing consumption and meter reading to the Eltako wireless network for evaluation on a PC using the Visualisation and Control Software FVS Home and FVS Energy. On three-phase energy meters, the data sent includes normal rate (HT) or off-peak (NT) energy tariff data, provided the E1/E2 terminals on the three-phase energy meter are connected to E1/E2 on the FSS12.

FVS-Energy and FVS-Home support up to 100 transmitter modules and FVS-Professional up to 250 transmitter modules.

The 12V DC supply voltage of the complete RS485 bus is mainly powered at 12W or 24W by a switch mode power supply unit FSNT12-12V DC that is only 1 or 2 pitch units wide. When the relay of the FSS12 is switched on, a power of 0.6 watts is required.

The setting and display screen is subdivided into 3 fields:

- Field 1: The normal display is the unit of the meter reading currently displayed in Field 3. This alternates every 4 seconds with either kilowatt hours kWh (KWH in display) or megawatt hours MWh (MWH in display). The display in Field 1 is supplemented by a + sign after the reading to indicate that the off-peak tariff rate is applied to E1/E2.
- Field 2: Instantaneous values of energy consumption (active power) in watt (W) or kilowatt (kW). The left-pointing arrow in Field 1 indicates an automatic switchover from 0 to 99 W to 0.1 to 65 kW.
- Field 3: The meter reading is the normal display. Every 4 seconds the display alternates between 3 whole numbers and 1 decimal point (from 0.1 to 999.9kWh) and 1 or max 3 whole numbers (from 0 to 999MWh).

Wireless telegrams: A power telegram is transmitted every 130 seconds and the display is updated. Otherwise a telegram is transmitted within 20 seconds if the power changes by minimum 10 percent. A switchover from HT to NT is transmitted immediately in the same way as a meter reading change. A full telegram comprising meter reading HT, meter reading NT and power is transmitted 20 seconds after the power supply is switched on and then every 10 minutes. The LED lights up briefly when a telegram is transmitted.

See page 2-3 for a detailed description.

FAM-USB with license FVS-Energy	USB wireless receiver	EAN 4010312305003	149,60 €/pc.
FSS12-12V DC	Wireless energy meter transmitter module	EAN 4010312301944	79,80 €/pc.

Direct display with the Energy Consumption Indicator EVA12

EVA12-32 A





Maximum current 32A, standby loss 0.5 watt only.

Modular device for DIN-EN 60715 TH35 rail mounting 1 module = 18mm wide, 58mm deep.

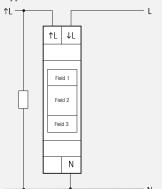
The energy consumption indicator EVA12 uses the current between input and output to measure active energy in the same way as a single-phase energy meter. It saves the consumption parameter in a non-volatile memory.

Accuracy conforms to Class B MID (1%) like all Eltako single-phase energy meters. The inrush current is 20mA.

In this way the energy consumption indicator reproduces exactly the reading on the billing energy meter installed at a different location in the building.

The display is subdivided into 3 fields.

Typical connection



Field 1:

This display refers to the cumulative value in field 3.

IIII moving slowly to the right = Field 3 shows the cumulative consumption since last reset. This is the display standard mode.

H01 = Field 3 shows the consumption for the last hour up to H24 = 24 hours ago.

D01 = Field 3 shows the consumption for the last day up to D31 = 31 days ago.

M01 = Field 3 shows the consumption for the last month up to M12 = 12 months ago.

Y01 = Field 3 shows the consumption for the last year up to Y24 = 24 years ago.

Field 2:

Instantaneous values of energy consumption (active power) in watt (W) or kilowatt (kW). The display arrows on the left and right show the automatic change W and kW.

Field 3:

Cumulative value in kWh. Display up to 9.999kWh with 3 decimal digits, from 10kWh with 1 decimal digit and from 1000kWh without decimal digit.

Press the left button MODE to scroll down the display options which are shown in field 1: HO1, DO1, MO1 and YO1 as described above. Finally, press MODE to show the abbreviation of the set language, e.g. GB for English, D for German and F for French.

Press the right button SELECT once within the display options to increment the indicated figure by 1. The corresponding value is indicated in field 3. The last clock hour then becomes the hour before last, etc.

If the active language was selected with MODE, press SELECT to switch to a different language. Exit the new language setting by pressing MODE to activate the setting. The program returns to the standard display mode automatically if MODE or SELECT are not operated for 20 seconds or if you press both buttons briefly simultaneously.

Reset

To start saving the values to the nearest hour, we recommend performing a reset at an opportune moment after installation. Hold down the buttons MODE and SELECT simultaneously for a further 3 seconds until RES appears in field 1. Then press SELECT briefly to reset all memories. Afterwards the program returns automatically to standard display mode.

EVA12-32A Maximum current 32 A EAN 4010312500828 **59,90 €/pc.**

Wireless Single-phase Energy Meter Transmitter Modules FWZ12



FWZ12-16 A







Wireless single-phase energy meter transmitter module, maximum current 16 A. Only 0.5 watt standby loss.

Modular device for DIN-EN 60715 TH35 rail mounting.

1 module = 18 mm wide, 58 mm deep.

This single-phase energy meter measures active energy by means of the current between input and output and transmits the consumption and meter reading over the Eltako wireless network. Accuracy class B (1%).

Evaluation on PC using the Visualisation and Control Software FVS or the energy consumption indicators FEA55LED or FEA55D. FVS-Energy and FVS-Home support up to 100 transmitter modules, FVS-Professional up to 250 transmitter modules.

The internal power consumption of max. 0.5 watt active power is neither metered nor indicated. Like all meters without PTB or MID approval in Germany, not approved to levy electricity charges. 1 phase conductor with a max. current up to 16A can be connected. The inrush current is 20 mA. The consumption is saved to a non-volatile memory and is immediately available again after a power failure.

Wireless telegrams: A telegram is transmitted within 20 seconds if the power status changes by min. 10 percent. A change in meter reading is transmitted immediately. A full telegram comprising meter reading and power status is transmitted every 10 minutes. When the power supply is switched on, a **teach-in telegram** is sent to teach in the associated energy consumption indicator.

If the L input and the L output were interchanged when hooked up, a normal rate (HT)/off-peak (NT) switchover telegram is transmitted to indicate the hook-up error.

FWZ12-16A

Wireless single-phase energy meter transmitter module 16A

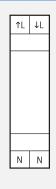
EAN 4010312303184

74,80 €/pc.

FWZ12-65 A







Wireless single-phase energy meter transmitter module, maximum current 65 A. Only 0.5 watt standby loss.

Modular device for DIN-EN 60715 TH35 rail mounting. 1 module = 18 mm wide, 58 mm deep. This single-phase energy meter measures active energy by means of the current between input and output and transmits the consumption and meter reading over the Eltako wireless network. Accuracy class B (1%).

Evaluation on PC using the Visualisation and Control Software FVS or the energy consumption indicators FEA55LED or FEA55D. FVS-Energy and FVS-Home support up to 100 transmitter modules, FVS-Professional up to 250 transmitter modules.

The internal power consumption of max. 0.5 watt active power is neither metered nor indicated. Like all meters without PTB or MID approval in Germany, not approved to levy electricity charges.

1 phase conductor with a max. current up to 65A can be connected. The inrush current is 40 mA. The consumption is saved to a non-volatile memory and is immediately available again after a power failure.

Wireless telegrams: A telegram is transmitted within 60 seconds if the power status changes by min. 10 percent. A change in meter reading is transmitted immediately. A full telegram comprising meter reading and power status is transmitted every 10 minutes. When the power supply is switched on, a **teach-in telegram** is sent to teach in the associated energy consumption indicator.

If the L input and the L output were interchanged when hooked up, a normal rate (HT)/off-peak (NT) switchover telegram is transmitted to indicate the hook-up error.

FWZ12-65A

Wireless single-phase energy meter transmitter module 65A

EAN 4010312311059

80,80 €/pc.

Wireless Single-phase Energy Meter Transmitter Module FWZ61

FWZ61-16 A







Wireless single-phase energy meter transmitter module, maximum current 16 A. Only 0.5 watt standby loss.

For installation. 45 mm long, 55 mm wide, 35 mm deep. Accuracy class B (1%).

This single-phase energy meter measures active energy by means of the current between input and output and transmits the consumption and meter reading over the Eltako wireless network. Accuracy class B (1%).

Evaluation on PC using the Visualisation and Control Software FVS or the energy consumption indicators FEA55LED or FEA55D. FVS-Energy and FVS-Home support up to 100 transmitter modules, FVS-Professional up to 250 transmitter modules.

The internal power consumption of max. 0.5 watt active power is neither metered nor indicated. Like all meters without PTB or MID approval in Germany, not approved to levy electricity charges.

1 phase conductor with a max. current up to 16A can be connected. The inrush current is 20 mA. The consumption is saved to a non-volatile memory and is immediately available again after a power failure.

Wireless telegrams: A telegram is transmitted within 20 seconds if the power status changes by min. 10 percent. A change in meter reading is transmitted immediately. A full telegram comprising meter reading and power status is transmitted every 10 minutes.

When the power supply is switched on, a **teach-in telegram** is sent to teach in the associated energy consumption indicator.

If the L input and the L output were interchanged when hooked up, a normal rate (HT)/off-peak (NT) switchover telegram is transmitted to indicate the hook-up error.

Wireless single-phase energy meter transmitter module

7-7

Wireless Actuator – Impulse Switch with integr. relay function FSR70W and FSR61VA





FSR70W-16 A















Function rotary switches on the side

1 NO contact not potential free 16 A/250 V AC, incandescent lamps up to 2000 watts. With integrated active power measurement up to 3680 watts. Bidirectional wireless and with repeater function. Only 0.9 watt standby loss.

Mounting in the 230V power supply cord, e.g. in false ceilings. 100mm long, 50mm wide and 31 mm deep.

The integrated **active power measurement** measures power upwards of approx. 10W when the contact is closed and transmits it to the Eltako wireless network. Signal evaluated by the FVS Wireless Visualisation and Control Software or the power consumption displays FEA55.

With **bidirectional wireless**; in addition, a **repeater** function can be switched in. Every change in state and incoming central command telegrams are confirmed by a wireless telegram. This wireless telegram can be taught-in in other actuators, in the FVS software and in FUA55 universal displays.

FSR70W-16A

Wireless actuator – Impulse switch with integr. relay function with active power measurement

FAN 4010312312179

95,90 €/pc.



FSR61VA-10A









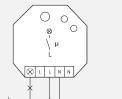




1 NO contact not potential free 10 A/250 V AC, incandescent lamps up to 2000 watts, off delay with switch-off early warning and switchable push-button permanent light. With integrated current measurement up to 10 A. Bidirectional wireless and with repeater function. Only 0.7 watt standby loss.

For installation. 45 mm long, 55 mm wide, 33 mm deep.

Supply voltage 230 V.



Typical connection

The apparent power from approx. 10VA up to 2300VA will be measured at closed contacts with the integrated power measurement and transmitted into the Eltako wireless system. Signal evaluated by the FVS Wireless Visualisation and Control Software or the power consumption displays FEA55.

With **bidirectional wireless**; in addition, a **repeater** function can be switched in. Every change in state and incoming central command telegrams are confirmed by a wireless telegram. This wireless telegram can be taught-in in other actuators, in the FVS software and in FUA55 universal displays.

Scene control: several FSR61s can be switched on or off in a scene by one of the four control signals of a double-rocker pushbutton taught-in as scene pushbutton.

FSR61VA-10 A

Wireless actuator – Impulse switch with integr. relay function with current measurement

EAN 4010312311462

73,70 €/pc.

Selection Table Single-phase and Three-phase Energy Meters

The smart counting champions

Eltako offers a complete range of energy meters for DIN-EN 60715 TH35 rail mounting from 32 A up to 65 A. Special attention should be paid to the power consumption of only 0.3 W active power of the 32 A and 65 A single-phase devices.

If energy meters for DIN-EN 60715 TH35 rail mounting are not used for billing we recommend the "Economy Line" without approval. Our marking is an "E" in the type designation: WSZ12DE-32A, WSZ12E-65A, DSZ12DE-3x65A and DSZ12WDE-3x5A.

All meters have an SO interface according to DIN 43 864.

Page in Catalogue "Switchgear, power supplies and electronic electricity meters"	F9 top	F9 bottom	F10 top	F10 bottom	FII	F12 top	F12 bottom	F13 top	F13 bottom	F14	F15	F16 top	F16 center	F16 bottom
	WSZ12D-32 A	WSZ12D-65A	WSZ12DE-32 A	WSZ12DE-65A	WZR12-32 A	DSZ12D-3x65A	DSZ12WD-3×5A	DSZ12DE-3x65 A	DSZ12WDE-3x5 A	DSZ12DZ-3x65A	DSZ12WDZ-3x5A	WSZ60	D9Z9Q	DSZ60D
Modular device for mounting on DIN rail EN 60715 TH35, number of modules 18 mm each	1	1	1	1	1	4	4	4	4	4	4	-	-	-
Meter mounting installation												-	•	•
Single-phase energy meter	•	•	•	•	•							•		
Three-phase energy meter							•							
Two-way three-phase energy meter										•				
With MID approval	•		_	_	_			_	_	•		-	-	-
Reference current $I_{\rm ref}$ (Limiting current $I_{\rm max}$) A	5(32)	10(65)	5(32)	10(65)	5(32)	10(65)	5(6) ¹⁾	10(65)	5(6) ¹⁾	10(65)	5(6) ¹⁾	5(60)	5(60)	5(60)
Display drum type register digits												6+1	6+1	
Display LC display digits	5+2 ²⁾ 6+1	5+2 ²⁾ 6+1	5+2 ²⁾ 6+1	5+2 ²⁾ 6+1	2/4	5+2 ²⁾ 6+1			6+1					
Accuracy class MID, inaccuracy ±1%	В	В	В	В	В	В	В	В	В	В	В	В	В	В
With return stop			•	-	•		•					-		•
Display instantaneous values			•	•			•							
Indication of misconnection			•	•			•							
Low standby loss		•	•	•	•	•	•	•		•	-			
SO interface potential free			•	•			•							

¹⁾ CT operated energy meter

²⁾ Switches over automatically from 5+2 to 6+1.



Eltako – The Wireless Building



he blue wireless network in the buildir



The **Eltako Wireless Building** is the wireless network for all buildings. Server-assisted building monitoring, control and visualisation. Secure data management with Eltako FVS-Safe and the factory installed FVS-Home Wireless Visualisation and Control Software

- Monitoring and transmitting of wireless information independent of the size of the building and number of locations.
- Eltako BSC-BAP wireless LAN access points each for approx. 200 to 400 m² building surface area with data buffer and automatic management of important functions.
- Eltako FAM-USB wireless antenna module for smaller buildings.
- Transmitting of wireless telegrams over long distances using Eltako FPV12 wireless Powernet connectors over the power mains.
- Transmitting of energy meter information directly from the meter SO interface to one of the USB interfaces of the FVS-Safe computer using Eltako FPZ12 Powernet meter connectors.

Eltako – The Wireless Building The blue wireless network in the building 1)

The **Eltako Wireless Building** is the wireless network for all buildings. Server-controlled building monitoring, control and visualisation. Secure data management ²⁾ by means of **Eltako FVS-Safe** ³⁾ and the factory installed **Eltako FVS Wireless Visualisation and Control Software** ⁴⁾.

Monitors and transmits wireless information independent of the size of the building and number of locations.

Eltako BSC-BAP wireless LAN access points 5) for 200 to 400 m² building surface area including large data buffer and automatic management of key functions.

Eltako FAM-USB wireless antenna module for smaller buildings.

Transmits wireless telegrams over long distances using **Eltako FPV wireless Powernet connectors** over the power mains ⁶⁾.

Transmits energy meter information directly from the meter SO interface to one of the USB interfaces of the FVS-Safe computer using **Eltako FPZ12 Powernet meter connectors** ⁶⁾.

The **Eltako Wireless Building** is prepared to set up an encrypted data link to power supply companies. This is a precondition for future load-dependent tariff controls in the **Smart Net** 7). **Eltako** also supplies the associated **Smart Meters**.



- 1) The blue network. Derived from the Eltako corporate colour blue which is the symbolic colour for environmental protection and sustainability in numerous countries e.g. in the USA.
- 2) All data and events are saved to a database for a predefined period. A net storage capacity of up to 75 GB is available for data. As protection against data loss, data is stored redundantly on a hard disc partition using a special process. In addition, data can be stored externally, e.g. on a USB stick.
- 3) The Eltako FVS-Safe is a flat fanless server which can either be secured under a table top or to the rear of an appropriately equipped monitor using one of the VESA mounts contained in the scope of delivery. The Windows 7 operating system is also installed as well as the FVS-Home Wireless Visualisation and Control Software.
- 4) The FVS Wireless Visualisation and Control Software visualises the switch positions of actuators and the consumption of connected meters for electricity, gas, water and heat. On the other hand, direct hook-ups and controls can be switched using preset software links. All you need to do then is click the mouse or touch the monitor screen. This is not included in the scope of delivery to allow the user to select the solution according to his personal requirements. It could also be an existing TV set. A notebook can be connected to the computer at any time. The connecting cable is contained in the scope of delivery.
- 5) The BSC-BAP wireless LAN access points communicate with all components in the Eltako wireless network. They exchange information by intercommunication and with the computer using TCP/IP over the ETHERNET. Every BSC-BAP covers a building surface area of approx. 200 to 400 m². This is dependent on the construction of the building.
- 6) The wireless network is an ideal supplement to the wireless building and additionally uses the power mains (Powernet) to transmit information over large distances up to 300 metres. However, compared with wireless components, Powernet components are very expensive and therefore they are not a practical general substitute for wireless.
- 7) If required, the power supply company can retrieve the load profile of a building and offer the appropriate tariffs. Tariffs are then saved in the computer so that you can perform and display a calculation of costs. Control information can also be saved so that certain consumers are only switched on depending on the tariff in order to lower energy costs.

The server and its assistants



Like a spider in a web the FVS-Safe server 'feels' all 'vibrations' in the network. It detects every single wireless telegram within the entire building. This is the work of the **BSC-BAP wireless LAN access points** which capture all signals and send them to the computer via ETHERNET. Or the **FAM-USB wireless antenna module.** Or the **FPV12 and FPZ12 wireless Powernet connectors** which use the power mains to send information over large distances to the computer. No conventional bus lines within the entire building are required for this, so you can definitely save costs here.

There is more to the server and its assistants than listening, they can also send control commands and information over the **Eltako wireless network.** For example, to control a building's energy supply, to supply fresh air, control shading elements optimally or switch lighting from a central point.

Reliable calculations show that optimised automatic building control is required to implement the **zero energy building** or even the **+ energy building**.



The basis with sensors and actuators

Without **Eltako sensors and actuators** no information or control commands can be sent over the wireless network. They form the basis for the **Eltako Wireless** and of course they operate without a server if there is no requirement for centralised building monitoring, centralised building control or visualisation.

Eltako sensors for switch commands, temperature, brightness, motion, humidity and air quality run partly without external power supply.

Batteryless and cordless **Eltako FFT, FT4, FHS** and **FMH wireless pushbuttons** generate their own power requirements for wireless telegrams when operated. **Eltako FAFT, FAH, FBH, FTF, FTK** and **FTR sensors** generate their power requirements from a solar cell and save excess energy from daylight to storage capacitors so that there is sufficient energy for trouble-free functioning in the dark.

Further Eltako sensors have a higher power requirement which they cannot generate themselves and therefore require an external power supply.

Eltako actuators are the backbone of **Eltako Wireless.** They only evaluate directly addressed wireless telegrams in order to switch or control any number of consumers in the building. Some have a **bidirectional function.** This allows them to send back their switch states to the server or displays or directly initiate other functions via actuators. In addition, these actuators may also function as repeaters.

Of course there are specific actuators for either centralised or decentralised installation — as with all conventional **Eltako switchgear**. If the **Eltako RS485 bus** is installed centrally with rail mounted devices in switch cabinets, an **Eltako FAM12 antenna module** is used to communicate with the actuators. The RS485 bus can also be used composite or without wireless by means of the **Eltako FTS12 pushbutton input module**.

The Eltako Wireless Building uses all Eltako Wireless components in an ingenious way and can be installed even in small installations. The components are all downwards-compatible!

All sensors and actuators communicate within the Eltako wireless network by means of telegrams using the world-wide standard of **EnOcean Alliance**. The batteryless and cordless wireless modules in the Eltako Wireless pushbuttons are produced by **EnOcean** in Munich as well as the wireless microchips in the other sensors and actuators.

Eltako therefore develops and manufactures **all** the sensors and actuators it offers. These are of course compatible with all products made by other manufacturers within the enormous international EnOcean family.



Eltako – The Wireless Building for all



You can start small with Fltako Wireless.

An actuator with two batteryless and cordless wireless pushbuttons is already a very elegant solution to the problem of missing pushbuttons. The old light switch is replaced by a wireless actuator preceded by a wireless pushbutton and any number of other wireless pushbuttons can be fitted. Then of course, the wireless actuator can also be a wireless dimming actuator.

At the other end of the unlimited and wide spectrum of possibilities with the Eltako Wireless Building, there are networked skyscrapers with hundreds of wireless sensors and wireless actuators, in groups or grouped floor by floor, monitored, controlled and visualised by FVS-Safe servers and installed FVS software.

The 4 stages on the Eltako Wireless success ladder

Stage 1

A few wireless sensors and wireless actuators to improve or expand an existing installation. Generally with actuators installed decentrally.



Stage 2

Several wireless sensors and wireless actuators to renovate an existing building or construct a new building but without centralised monitoring, control or visualisation. With actuators installed decentralised and/or centralised.



Stage 3

Several wireless sensors and wireless actuators in a residential building with centralised monitoring, control or visualisation. With a FVS-Safe Server and a FAM-USB wireless antenna module which includes a software license for FVS-Home. Actuators mainly installed centrally and supplemented by decentralised installation.

External access with a smartphone via internet is possible.



Stage 4

Many wireless sensors and wireless actuators in a large building with centralised monitoring, control or visualisation. With the Eltako FVS-Safe Server, software license for FVS-Professional and BSC-BAP wireless LAN Access Points. Actuators partly installed centrally, partly installed decentrally in suspended ceilings. External access with a smartphone via internet is possible.



Some applications with the FVS-Safe Server





















Lighting

Optimal lighting in all rooms.

Dimmer sand light scenes create a homely ambience.

Sunshading

Control roller shutters and blinds automatically as you require. The powered awning provides protection against the rays of the sun.

Heating

Control the temperature in every room.

Energy efficient temperature control and ideal heat distribution.

Air conditioning

Fresh air at all times — Automatic switching of air conditioning and window surveillance systems.

Convenience

Automatic switching using motion and brightness sensors. Presence simulation with time-dependent control of lighting, sunshading and heating systems.

Remote access

Remote access to the building by smartphone, tablet or PC including camera link.

Safety

Display open windows and doors. Warnings in the event of malfunctions, burglary or emergency call. On request, encrypted wireless radio even inside your home.

Networking

Set up or integrate a complete network topology. Various access points to the building.

Energy savings

Consumption monitoring and indication by display or software (smart metering). Automatic switching on/off of consumers to save energy. Encrypted data exchange with the power supply company.

Visualisation

Visualisation and control of building automation by software.

Eltako – The Wireless Building Products and Prices, Contents





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FVS-Safe





Server FVS-Safe

FVS-Safe is a flat and fanless server which can be fixed under a table top or to the rear of a monitor fitted with one of the VESA mounts contained in the scope of delivery.

The Windows 7 operating system (included in the price) is also installed as well as the Eltako FVS Wireless Visualisation and Control Software (not included in the price) which is activated by a FVS-Home or FVS-Professional license key.

All data and events are saved to a database for a predefined period. There is a net memory capacity of up to 75 GB available for data. As protection against data loss, data is stored redundantly on a hard disc partition using a special process. In addition, data can be stored externally, e.g. on an USB stick.



The installed FVS Wireless Visualisation and Control Software visualises the switch positions of actuators and the consumption of connected meters for electricity, gas, water and heat. On the other hand, direct hook-ups and controls can be made using preset software links. Then you only need to click the mouse or touch the monitor screen. This is not included in the scope of delivery to allow the user to select the solution according to his personal requirements. It could also be an existing TV set. A notebook can be connected to the computer at any time.

Software and license encryption by CodeMeter from WIBU-Systems. External data communication using 256-bit encryption.

Without ETHERNET or WLAN, only a FAM-USB is required to communicate with the Eltako wireless network. This device and the supplied license key activate the FVS-Home software. At least one BSC-BAP is required for ETHERNET as well as a license key to activate the FVS-Professional software. This license key can also upgrade the system from FVS-Home to FVS-Professional.



Technical data	
operating system	Windows 7 HP
СРИ	Intel® Atom N270 1.6 GHz
chip set	Intel® 945GSE
RAM	1 GB SO-DDRII RAM 800 MHz
hard disk	2.5" HDD SATA 160 GB
ports left	1 x serial port, 3 x USB
ports right	1 x DVI-I (VGA via adapter), 1 x USB 2.0 2 x Intel LAN 10/100/1000 Mbit, 2 x audio 6-channel HD
power consumption	approx. 10 watts (standby), approx. 14 watts (idle), approx. 17 watts (full load)
ventilation	silent, passive cooling
dimensions (HxWxT)	2x26x18cm
wall mount	VESA standard
weight	ca. 1.25 kg

FVS-Safe Eltako Wireless Building computer EAN 4010312311127 **888,00 €/pc.***

Wireless Visualisation and Control Software **FVS-Home and FVS-Professional**



FVS-Home





Wireless visualisation and control software for up to 100 wireless sensors and up to 128 wireless actuators, 5 cameras and 25 timers.

The FAM-USB wireless receiver with USB connection is required in addition for reception at the server and to send wireless telegrams from the server. FVS-Home is already included in the price and the license key is included with the FAM-USB. Updates for the installed FVS software can be downloaded from the Internet free of charge.

FVS-Professional





Wireless visualisation and control software for LAN links. Up to 250 wireless sensors, unlimited number of actuators, 1 client, 25 cameras and 250 timers.

At least one BSC-BAP LAN Access Point is required in addition for reception at the server and to send wireless telegrams from the server. The software is activated by a license key. Updates for the installed FVS software can be downloaded from the Internet free of charge.

One FAM-USB can also be used in addition to the BSC-BAP.



BSC-BAP

Performance features	FVS-Home	FVS-Professional
Number of supported sensors and energy meter transmitter modules	100	250
Number of supported actuators	128	128 per BSC-BAP
Number of supported cameras	5	25
Number of supported timers	25	250
Supports BSC-BAP	-	unlimited
SQL database in scope of delivery	1	✓
Sends text messages/e-mails	1	✓
Supports FVS-ToGo	1	✓
Supports Eltako Mobile	1	✓
Supports Clients	1	✓ (A Client is included in FVS Professional.)
256 bit encryption	1	✓

FAM-USB with license FVS-Home	USB wireless receiver	EAN 4010312305003	149,60 €/pc.
FVS Professional license	License key	EAN 4010312302002	540,00 €/pc.
BSC-BAP	Wireless LAN-Access-Point	EAN 4010312302040	298,00 €/pc.

Additional licenses for FVS-Cam and FVS-Client Mobile phone apps, FVS-Mobile and WIBU stick FVS-ToGo

FVS-Cam

An additional FVS-Cam license allows you to expand visualisation to 5 USB and IP cameras within a building.

In their basic equipment levels, FVS-Home visualises up to 5 cameras and FVS-Professional up to 25 cameras. The drivers for commercial cameras are included in the software. New cameras are added in upgrades.

FVS Cam license

Expansion kit each for 5 cameras

EAN 4010312302019

68,00 €/pc.

FVS-Client

Additional licenses FVS-Client-1 or FVS-Client-5 permit the expansion of FVS-Safe by external access (Clients).

In basic equipment level, the FVS-Professional already supports one Client.

The precondition is of course an additional IP connection to the Internet or an Intranet.

The most important external access (Client) is the link to a mobile phone, in particular one of the new Smartphones.

For the iPhone, iPad and all mobile phones equipped with Android software, **FVS Mobile apps** can be downloaded free of charge from the Internet shops of Apple and Google. The download is available at www.eltako-wireless.com for windows mobile and Blackberry.

The mobile phones are then capable of visualising, controlling and accessing installed USB and IP cameras. Authentication and data transmission are encrypted.

FVS-Client-1	to activate one Client	EAN 4010312311110	98,00 €/pc.
FVS-Client-5	to activate five Clients	EAN 4010312312964	459,80 €/pc.

FVS-ToGo

The WIBU CodeMeter file on the 1 GB 'Metal Secure' USB stick is one Client and permits world-wide encrypted access to the FVS-Safe from any Windows PC equipped to access the Internet.

Visualisation and control can be executed depending on the authorisation saved. Visualisation also with USB and IP cameras.

Authentication and data transmission are protected by the 256-bit hardware key. It leaves no evaluatable trace on the PC used. The free data memory can be used for personal codes and data. One license key is included.

FVS-ToGo Stick 1 GB

with WIBU CodeMeter file

EAN 4010312305119

140,60 €/pc.

Wireless LAN-Access-Point BSC-BAP Wireless Antenna Module FAM-USB



BSC-BAP





Wireless LAN Access Point with ETHERNET interface for operation with a FVS-Safe server in conjunction with the FVS-Professional Wireless Visualisation and Control Software.

100 MBit LAN.

Delivery including configuration software and power supply unit.

The BSC-BAP receives all wireless telegrams from the Eltako wireless network from a building area of approx. 200 to 400 m² and forwards them via ETHERNET to the FVS-Software server. It also transmits wireless telegrams at the instigation of the software in the Eltako wireless network. Housing dimensions Ixwxh: 110x75x25mm.

BSC-BAP Wireless LAN-Access-Point EAN 4010312302040 298,00 €/pc.

FAM-USB

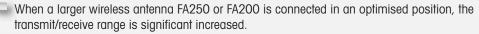




Wireless antenna module (receiver and transmitter) with USB port to operate a FVS-Safe server in conjunction with the FVS-Home Wireless Visualisation and Control Software.

USB port type A with 1m connecting cable.

SMA socket for enclosed small antenna.



It is only permitted to connect a high performance receive antenna FA200 if wireless signals are only received and not transmitted.

Housing dimensions Ixwxh: 78x40x22mm.

The license for the FVS-Home software is included in the price of the FAM-USB. One license key is included.

WEEE registration number DE 30298319

FAM-USB with FVS-Home license Wireless USB receiver/transmitter

EAN 4010312305003

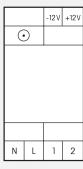
149,60 €/pc.

Wireless Powernet Connector for Input and Output FPV12

FPV12-12 V DC







Wireless Powernet connector to input and output wireless telegrams into and out of the 230 V power system. With 32 data channels. Only 0.7 watt standby loss. Also settable as repeater. If required, a wireless antenna FA250 or FA200 can be connected.

Modular device for DIN-EN 60715 TH35 rail mounting.

2 modules = 36 mm wide, 58 mm deep.

FPV12s are used to input wireless telegrams into the power mains and output them to the Eltako wireless network at another location. An FPV12 can operate in both directions. Up to four FPV12s and FPV12USBs can be combined into a group to enter or output telegrams at various points in the power mains.

The 12 V DC power supply is provided by a switching power supply unit FSNT12-12 V that is only 1 or 2 modules wide. With a power consumption of 12 W or 24 W, it can also power actuators as a rail mounted device.

The length of the 230V transmission line between input and output can be up to 300 metres. It is dependent on the contact resistance of the intermediate connections and the cable layout. If Powernet telegrams are not coupled into other external cables via parallel lines, this can be arranged using a phase coupler FPP12 so that output can be made to any line.

Up to 32 sensors with their fixed ID numbers saved can be taught-in in the input FPV12. When these sensors are taught-in in the actuators, new unique ID numbers are issued by the output FPV12. This ensures that the actuators only execute the commands of the output FPV12, even if the original wireless telegrams arrive there.

Every FPV is equipped with a **fault relay** for safety applications. This closes the floating contact 1-2 for 3 seconds if the output FPV sends no receive confirmation within a preset time or the data buffer overflows.

Up to 24 consecutive incoming wireless telegrams are buffered and pushbutton signals are transferred as first priority. Transmission takes place in compliance with CENELEC B in the range from 95 to 125 KHz at up to 2.5 Kbps.

The **red LED** accompanies the teach-in process and indicates incoming wireless telegrams in operation by blinking briefly. The green LED indicates received Powernet telegrams in operation by blinking briefly.

FPV12-12V DC

Wireless Powernet connector

EAN 4010312305249

208,90 €/pc.

FPV12USB-12V DC







Wireless Powernet connector to input wireless telegrams from the FVS-Safe server into the 230 V power mains and to output wireless telegrams from the 230 V power mains via the USB interface directly to a FVS-Safe server. Only 0.7 watt standby loss.

Modular device for DIN-EN 60715 TH35 rail mounting. 2 modules = 36 mm wide, 58 mm deep.

Up to four FPV12s and FPV12USBs can be combined into a group to enter or output telegrams at various points in the power mains.

For power supply, cable length and fault relay, see the FPV12-12 V DC description.

FPV12USB-12V DC

Wireless Powernet connector

EAN 4010312311219

199,80 €/pc.

V-11

Wireless Powernet Meter Connector for Input and Output FPZ12



FPZ12S0-12V DC

min (1)





Wireless Powernet meter connector with 3 SO inputs to enter meter telegrams into the 230 V power mains. Only 0.7 watt standby loss.

Modular device for DIN-EN 60715 TH35 rail mounting.

2 modules = 36 mm wide, 58 mm deep.

To input meter telegrams in the power mains, up to 10 FPZ12SOs and therefore 30 meters can be connected to form one group.

Up to 3 meters and their meter readings can be metered in the input FPZ12 via the display by pressing MODE and SET. At the same time, you can define from which output FPZ12 meter messages can be evaluated.

Meter telegrams can be output from the power mains either by one or several FPZ12USBs and their USB interfaces directly into an FVS-Safe or by FPZ12Fs into Eltako wireless networks.

For power supply and cable length, see the FPV12-12 V DC description.

FPZ12S0-12V DC

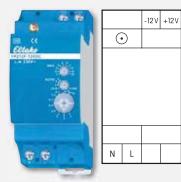
Wireless Powernet meter connector

EAN 4010312311387

183,80 €/pc.

FPZ12F-12V DC





Wireless Powernet meter connector to output meter telegrams from the 230 V power mains into the Eltako wireless network. With exchangeable antenna. Only 0.7 watt standby loss. If required, a wireless antenna FA250 or FA200 can be connected.

Modular device for DIN-EN 60715 TH35 rail mounting. 2 modules = 36 mm wide, 58 mm deep.

To output meter telegrams into the Eltako wireless network, up to 30 FPZ12Fs for 30 meters can be connected to form a group. Every FPZ12F sends only telegrams whose authorisation are saved in the input FPZ12S0.

For power supply and cable length, see the FPV12-12 V DC description.

FPZ12F-12V DC

Wireless Powernet meter connector

EAN 4010312311394

232,00 €/pc.

FPZ12USB-12 V DC





Wireless Powernet meter connector to output meter telegrams from the 230 V power mains into the Eltako building wireless network.
Only 0.7 watt standby loss.

Modular device for DIN-EN 60715 TH35 rail mounting. 2 modules = 36 mm wide, 58 mm deep.

To output meter telegrams in the power mains in up to 30 server networks, up to 30 FPZ12USBs for 30 meters can be connected to form one group. Every FPZ12USB sends only telegrams whose authorisation is saved in the input FPZ12SO.

For power supply and cable length, see the FPV12-12 V DC description.

FPZ12USB-12V DC

Wireless Powernet meter connector

EAN 4010312311400

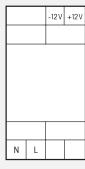
199,80 €/pc.

Wireless Powernet Repeater FPR12 Wireless Powernet Phase Coupler FPP12

FPR12-12 V DC







Wireless Powernet repeater for the Powernet connectors FPV12 and the Powernet meter connectors FPZ12. Only 0.7 watt standby loss.

Modular device for DIN-EN 60715 TH35 rail mounting.

2 modules = 36 mm wide, 58 mm deep.

The 12V DC power supply is provided by a switching power supply unit FSNT12-12V that is only 1 or 2 modules wide. With a power consumption of 12W or 24W, it can also power actuators as a rail mounted device.

The length of the 230 V transmission line between the input Powernet connector and the repeater can be up to 300 metres. It is dependent on the contact resistance of the intermediate connections and the cable layout. The repeater also lengthens the distance by up to 300 metres.

Up to 10 FPZ12SO devices can be taught-in for up to 30 meters. Two connected FPV12 devices require no teach-in since the rotary switch settings are sufficient for this.

Up to 24 consecutive incoming wireless telegrams are buffered and pushbutton signals are transferred as first priority. Transmission takes place in compliance with CENELEC B in the range from 95 to $125\,\text{KHz}$ at up to $2.5\,\text{Kbps}$.

The **green LED** under the bottom rotary switch accompanies the teach-in process according to the operating instruction and indicates incoming Powernet telegrams in operation by blinking briefly.

FPR12-12V DC

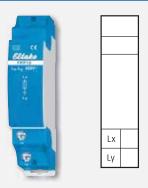
Wireless Powernet repeater

EAN 4010312312162

159,80 €/pc.

FPP12





Wireless Powernet phase coupler to transmit wireless telegrams over the 230 V power mains. Only 0.2 watt standby loss.

Modular device for DIN-EN 60715 TH35 rail mounting.

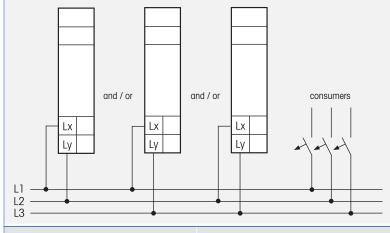
1 module = 18 mm wide, 58 mm deep.

Voltage between the two outer conductors: 400V/50Hz.

The phase coupler increases the capacitive coupling between 2 different outer conductors if, for example, the cables within the installation are not laid in parallel at a distance of at least several metres apart (as ribbon cables or jacketed cables).

Caution: The phase coupler may only be connected to the input side of the line circuit-breaker.

Typical connection



FPP12 Wireless Powernet phase coupler

EAN 4010312311769

25,40 €/pc.





Wireless repeater FRP61-230 V	Z-0
Wireless repeater FRP61/8-24 V UC	Z-0
Wireless repeater FRP70-230 V	Z-1
Outdoor wireless repeater FARP60-230 V	Z-1
NEW Switching power supply units FSNT12 and FSNT61	Z-2
Wireless antennas FA250, FA200, HF ground FHM175 and extension cables FAV5 and FAV10	Z-3
NEW Level meter EPM300	Z-4
NEW Screws and rawl plugs S+D 25	Z-4
Housing for operating instructions GBA12	Z-4
Short-stroke pushbuttons KT	Z-5

FRP61-230V







1 and 2 level wireless repeater. Only 0.8 watt standby loss.

For installation. 45 mm long, 55 mm wide, 33 mm deep.

Supply voltage 230V.

This repeater is only needed if the building conditions do not allow undisturbed reception or the distance between the wireless pushbutton and receiver is too great.

The 1-level mode is activated ex works. Only the signals are received, tested and retransmitted at full transmit power. Wireless signals from other repeaters are ignored to reduce the data volume.

Switchover to 2-level mode is carried out by removing the cover (lightly press the latching clips) and repositioning the jumper flush right. In this setting, wireless signals from other 1-level repeaters are also processed. A signal may therefore be received and amplified twice.

Wireless repeaters need not be taught-in. They receive and amplify signals from all wireless sensors within their reception area.

FRP61-230V

Wireless repeater

EAN 4010312300251

46,10 €/pc.

FRP61/8-24V UC







1 and 2 level wireless repeater. Standby loss only 0.3 watt (at 8 V UC), 0.5 watt (at 12 V UC) and 1 watt (at 24 V UC).

For installation. 45 mm long, 55 mm wide, 18 mm deep.

Supply voltage 8 to 24 V UC.

This repeater is only needed if the building conditions do not allow undisturbed reception or the distance between the wireless pushbutton and receiver is too great.

The 1-level mode is activated ex works. Only the signals are received, tested and retransmitted at full transmit power. Wireless signals from other repeaters are ignored to reduce the data volume.

Switchover to 2-level mode is carried out by removing the cover (lightly press the latching clips) and repositioning the jumper flush right. In this setting, wireless signals from other 1-level repeaters are also processed. A signal may therefore be received and amplified twice.

Wireless repeaters need not be taught-in. They receive and amplify signals from all wireless sensors within their reception area.

Z-0

FRP61/8-24V UC Wireless repeater EAN 4010312302330 **46,10 €/pc.**

FRP70-230V





1 and 2 level wireless repeater with small antenna and with antenna FA250. Only 0.6 watt standby loss. A wireless antenna FA250 is connectable as required.

Mounting in the 230V power supply cord, e.g. in false ceilings.

100mm long, 50mm wide and 25mm deep.

This repeater is only needed if the building conditions prevent undisturbed reception or the distance between the wireless pushbutton and receiver is too great.

Antenna FA250 with 250 cm cable is connectable instead of the enclosed antenna.

The range can be extended considerably by placing it in the optimum position.

The 1-level mode is activated ex works. Only the signals from sensors and actuators are received, tested and retransmitted at full transmit power. Wireless signals from other repeaters are ignored to reduce the data volume.

The rotary switch on the side is for changing over to 2-level mode. In this setting, wireless signals from other 1-level repeaters are also processed. A signal may therefore be received and amplified twice.

Wireless repeaters need not be taught-in. They receive and amplify signals from all wireless sensors within their reception area.

The LED under the rotary switch blinks briefly to indicate all the wireless signals detected.

FRP70-230V	Wireless repeater	EAN 4010312306482	80,80 €/pc.
FA250	Wireless antenna with 250cm cable	EAN 4010312300244	19,90 €/pc.

FARP60-230V



IP 54



Outside wireless repeater 1 and 2 levels, 60x46 mm, 30 mm deep. Only 0.7 watt standby loss.

Supply voltage 230 V.

This repeater is only needed if the building conditions prevent undisturbed reception or the distance between the wireless pushbutton and receiver is too great.

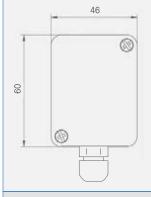
The 1-level mode is activated ex works. Only the signals from sensors and actuators are received, tested and retransmitted at full transmit power. Wireless signals from other repeaters are ignored to reduce the data volume.

Switchover to 2-level mode is carried out by removing the cover (loosen two screws on the front panel) and repositioning the jumper flush right. In this setting, wireless signals from other 1-level repeaters are also processed. A signal may therefore be received and amplified twice.

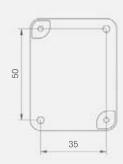
A red LED blinks briefly to indicate all the wireless signals detected.

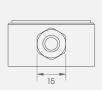
Wireless repeaters need not be taught-in. They receive and amplify signals from all wireless sensors within their reception area.

On the underside there is an M12 screw for a waterproof mains connection. The protection class is IP54, the allowable ambient temperature is -20°C to +55°C. For screw mounting.









FARP60-230V Outdoor wireless repeater

EAN 4010312310137

65,70 €/pc.

Recommended retail prices excluding VAT.

Switching Power Supply Units FSNT12 and FSNT61



FSNT12-12 V/12 W







Rated capacity 12 W. Standby loss 0.2 watt only.

Modular device for DIN 60715 TH35 rail mounting. 1 module = $18\,\mathrm{mm}$ wide, $58\,\mathrm{mm}$ deep. At a load of more than $50\,\%$ of the rated capacity and always if there are adjacent switching power supply units from $12\,\mathrm{W}$ rated capacity and if there are dimmers a ventilation clearance of 1/2 module must be maintained with the spacers DS12 on both sides.

Input voltage 230V (-20% up to +10%). Efficiency 83%.

Stabilised output voltage ±1%, low residual ripple. Short-circuit proof.

Overload protection and over-temperature switch-off by means of swichting off with automatic switching-on after fault clearance (autorecovery function).

For redundant operation 2 switching power supply units can be connected in parallel.

FSNT12-12V/12W

EAN 4010312313151

35,50 €/pc.



FSNT12-12 V/24 W







Rated capacity 24 W. Standby loss 0.2 watt only.

Modular device for DIN 60715 TH35 rail mounting. 2 modules = $36\,\mathrm{mm}$ wide, $58\,\mathrm{mm}$ deep. At a load of more than $50\,\%$ of the rated capacity and always if there are adjacent switching power supply units from $12\,\mathrm{W}$ rated capacity and if there are dimmers a ventilation clearance of 1/2 module must be maintained with the spacers DS12 on both sides.

Input voltage 230V (-20% up to +10%). Efficiency 83%.

Stabilised output voltage ±1%, low residual ripple. Short-circuit proof.

Overload protection and over-temperature switch-off by means of swichting off with automatic switching-on after fault clearance (autorecovery function).

For redundant operation 2 switching power supply units can be connected in parallel.

FSNT12-12V/24W

EAN 4010312313176

44,90 €/pc.



FSNT61-12V/6W







Rated capacity 6 W. Standby loss 0.1 watt only.

For installation. 45 mm long, 55 mm wide, 33 mm deep.

Input voltage 230V (-20% up to +10%). Efficiency 81%.

Stabilised output voltage ±1%, low residual ripple. Short-circuit proof.

Overload protection and over-temperature switch-off by means of swichting off with automatic switching-on after fault clearance (autorecovery function).

FSNT61-12V/6W

EAN 4010312313145

30,00 €/pc.



FSNT61-24V/6W







Rated capacity 6 W. Standby loss 0.1 watt only.

For installation. 45 mm long, $55\,\mathrm{mm}$ wide, $33\,\mathrm{mm}$ deep.

Input voltage 230V (-20% up to +10%).

Efficiency 82%. Stabilised output voltage ±1%, low residual ripple.

Short-circuit proof.

Only required for the weather data
Overload protection and over-temperature switch-off by means of swichting off with automatic switching-on after fault clearance (autorecovery function).

FSNT61-24V/6W EAN 4010312313169 **30,00 €/pc**.

Recommended retail prices excluding VAT.





FA250, FHM175 and FA200



Wireless antenna FA250 with magnetic base and 250 cm cable

The small enclosed wireless antenna of the wireless antenna modules and several wireless transmitter modules are replaceable by this larger antenna to receive and transmit wireless signals to or from metal control cabinets.

It is mounted on the magnetic base externally and the 250cm cable is routed inside the cabinet. The best performance is achieve by attaching the magnetic foot on a metal surface. The transmit and receive ranges are almost spherical around this antenna.

Antenna height, only 9.6 cm. With SMA screw terminal.

Extension by 5 metres using wireless antenna extension FAV5 or by 10 metres using FAV10.



HF ground FHM175 for the HF wireless antenna FA250, aluminium disc anodized, 4 mm thick, 175 mm diameter.

This HF ground optimizes the receiver and transmitter performance of the HF antenna FA250 since the diameter has twice the length of the antenna plus its bar diameter.

A deepened steel disc with the diameter of the magnetic antenna coil is pressed into the center. Thereby the FA250 can easily be centered.

The aluminium disc is formed with a hole and a slot to be fixed to the wall.

High-performance receive antenna FA200 with magnetic base and 200 cm cable

This antenna has a radial gain of up to 7dBi and therefore has a much greater range than wireless antenna FA250. As a trade-off the receive power along the antenna axis is considerably lower. This must be taken into consideration when positioning the antenna. It may only be used as a receive antenna.

Antenna height 45 cm. With SMA screw terminal.

Extension by 5 metres using wireless antenna extension FAV5 or by 10 metres using FAV10.

FA250	Wireless antenna with 250cm cable	EAN 4010312300244	19,90 €/pc.
FHM175	HF ground for FA250	EAN 4010312313121	34,00 €/pc.
FA200	High-performance receive antenna with 200 cm cable	EAN 4010312303306	64,70 €/pc.
FAV5	Wireless antenna extension 5 m	EAN 4010312302897	23,90 €/pc.
FAV10	Wireless antenna extension 10 m	EAN 4010312302903	26,80 €/pc.



EPM300



EnOcean level meter to assist in installation of wireless sensors and wireless actuators.

For range analysis and for evaluation of the signal quality of wireless sensors respectively for detecting of interferences.

2 AA/LR06 batteries are additionally necessary.

Switch on and off with the \circlearrowleft button and press for 2 seconds.

The desired operating condition is selected with the MODE button.

Hold Short indicates the signal strength of an EnOcean wireless telegram for 1 second.

Hold Long indicates the signal strength of an EnOcean wireless telegram for 60 seconds.

Repeater repeats an EnOcean wireless telegram.

Radio Link Test transmits an individual EnOcean wireless telegram every 2 seconds whose quality at the receiving station can be measured with a second EPM300.

WEEE-Reg.-Nr. DE 30298319

EPM300

Level meter

EAN 4010312313039

99,20 €/pc.



S+D 25



25 pcs screws and rawl plugs to fit the mounting plate for wireless pushbuttons. Screws also for fitting on UP boxes.

Contents: 25 pcs countersink sheet metal screws with cross head 2.9x25 mm DIN 7982 C, stainless steel A2 and 25 pcs Fischer rawl plugs with lip SX5, 25 mm long.

The screw head fits exactly (in height and diameter) between the mounting plate of the wireless pushbutton and the Eltako frame.

Moreover, the screws are also suitable for fixing devices on UP switch boxes in the screw sleeves there.

S+D 25

25 screws and rawl plugs 25 mm

EAN 4010312906231

4,10 €/pc.

Gehäuse für Bedienungsanleitungen GBA12



Modular device for DIN-EN 60715 TH35 rail mounting. 1 module = 18 mm wide, 55 mm deep.

Housing without front panel to insert operating instructions.

GBA12

Housing for operating instructions

EAN 4010312901779

1,50 €/pc.

Recommended retail prices excluding VAT.



KT4F





Flat short-stroke pushbutton 4 NO contacts $8\,A/250\,V$ AC, contact gap $0.5\,mm$, $80\,x80\,mm$ external dimensions, internal frame dimensions $63\,x63\,mm$, $15\,mm$ high.

The scope of supply comprises the frame R1F, a flat rocker WF, a flat double rocker DWF (all same colour), an attachment frame BRF, the mounting base HP and the pushbutton module.

Fitted using a 55 mm switch box.

We recommend sheet metal countersink screws 2.9x25mm, DIN 7982 C, for screw connections on 55mm switch boxes. See Accessories on page Z-4.

The unprinted double rocker is snapped onto the pushbutton module at the factory. If the double rocker is replaced by the large unprinted rocker, remove the rocker halves by pulling off to the front. Do not bend towards the middle. Then snap the large rocker so that the markings 0 and I on the back line up with the same markings on the pushbutton module.

The Eltako frame can be replaced on installation at any time by a design frame with internal dimensions 63x63mm from other manufacturers.

KT4F-ws	Flat short-stroke pushbutton white	EAN 4010312303108	25,10 €/pc.
KT4F-rw	Flat short-stroke pushbutton pure white	EAN 4010312303122	25,10 €/pc.
KT4F-sz	Flat short-stroke pushbutton black	EAN 4010312303146	25,10 €/pc.
KT4F-an	Flat short-stroke pushbutton anthracite	EAN 4010312303177	25,10 €/pc.
KT4F-wg	Flat short-stroke pushbutton pure white glossy	EAN 4010312303153	25,10 €/pc.
KT4F-cg	Flat short-stroke pushbutton creme white glossy	EAN 4010312311509	25,10 €/pc.
KT4F-si	Flat short-stroke pushbutton silvergray glossy	EAN 4010312303351	25,10 €/pc.
KT4F-al	Flat short-stroke pushbutton coated/aluminium paint	EAN 4010312311516	32,30 €/pc.
KT4F-sg	Flat short-stroke pushbutton black glossy	EAN 4010312311523	32,30 €/pc.

Currently supplied colours of the short-stroke pushbuttons KT4F and their order abbreviations:

Ws rw sz an wg cg si al sg

Recommended retail prices excluding VAT.

Short-stroke Pushbuttons KT55

KT55





Short-stroke pushbutton 4 NO contacts $8\,A/250\,V$ AC, contact gap $0.5\,mm$, $80x80\,mm$ external dimensions, internal frame dimensions $55x55\,mm$, $15\,mm$ high.

The scope of supply comprises the frame R, one large rocker W55, one double rocker DW55 (all same colour), the mounting base HP and the pushbutton module.

Fitted using a 55 mm switch box.

We recommend sheet metal countersink screws 2.9x25mm, DIN 7982 C, for screw connections on 55mm switch boxes. See Accessories on page Z-4.

The unprinted double rocker is snapped onto the pushbutton module at the factory. If the double rocker is replaced by the large unprinted rocker, remove the rocker halves by pulling off to the front. Do not bend towards the middle. Then snap the large rocker so that the markings 0 and I on the back line up with the same markings on the pushbutton module.

The Eltako frame can be replaced on installation at any time by a design frame with internal dimensions 55x55mm from other manufacturers.

KT55-ws	Short-stroke pushbutton 55x55 mm, white	EAN 4010312311554	25,10 €/pc.
KT55-rw	Short-stroke pushbutton 55x55 mm, pure white	EAN 4010312311592	25,10 €/pc.
KT55-sz	Short-stroke pushbutton 55x55 mm, black	EAN 4010312311578	25,10 €/pc.
KT55-an	Short-stroke pushbutton 55x55 mm, anthracite	EAN 4010312311585	25,10 €/pc.
KT55-wg	Short-stroke pushbutton 55x55 mm, pure white glossy	EAN 4010312311608	25,10 €/pc.
KT55-cg	Short-stroke pushbutton 55x55 mm, creme white glossy	EAN 4010312311561	25,10 €/pc.
KT55-si	Short-stroke pushbutton 55x55 mm, silvergrey glossy	EAN 4010312311615	25,10 €/pc.
KT55-al	Short-stroke pushbutton 55x55 mm, coated/aluminium paint	EAN 4010312311530	32,30 €/pc.
KT55-sg	Short-stroke pushbutton 55x55 mm, black glossy	EAN 4010312311547	32,30 €/pc.



KT4





Short-stroke pushbutton 4 NO contacts $8\,A/250\,V$ AC, contact gap $0.5\,mm$, $80x80\,mm$ external dimensions, internal frame dimensions $55x55\,mm$, $15\,mm$ high.

The scope of supply comprises the frame R, one large rocker W, one double rocker DW, one intermediate frame ZR (all same colour), the mounting base HP and the pushbutton module.

Fitted using a 55 mm switch box.

We recommend sheet metal countersink screws 2.9x25mm, DIN 7982 C, for screw connections on 55mm switch boxes. See Accessories on page Z-4.

The unprinted double rocker is snapped onto the pushbutton module at the factory. If the double rocker is replaced by the large unprinted rocker, remove the rocker halves by pulling off to the front. Do not bend towards the middle. Then snap the large rocker so that the markings 0 and I on the back line up with the same markings on the pushbutton module.

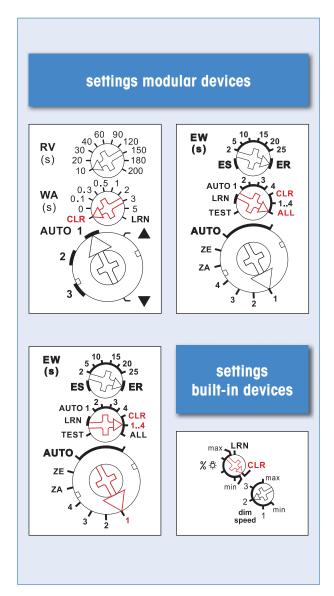
The Eltako frame can be replaced on installation at any time by a design frame with internal dimensions 55x55 mm from other manufacturers.

KT4-ws	Short-stroke pushbutton white	EAN 4010312302910	25,10 €/pc.
KT4-rw	Short-stroke pushbutton pure white	EAN 4010312303047	25,10 €/pc.
KT4-sz	Short-stroke pushbutton black	EAN 4010312303061	25,10 €/pc.
KT4-an	Short-stroke pushbutton anthracite	EAN 4010312303092	25,10 €/pc.
KT4-wg	Short-stroke pushbutton pure white glossy	EAN 4010312303078	25,10 €/pc.
KT4-cg	Short-stroke pushbutton creme white glossy	EAN 4010312311479	25,10 €/pc.
KT4-si	Short-stroke pushbutton silvergrey glossy	EAN 4010312303501	25,10 €/pc.
KT4-al	Short-stroke pushbutton coated/aluminium paint	EAN 4010312311486	32,30 €/pc.
KT4-sg	Short-stroke pushbutton black glossy	EAN 4010312311493	32,30 €/pc.



Recommended retail prices excluding VAT.





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Technical Data Switching Actuators and Dimming Actuators for the Eltako RS485 Bus

Contacts	FSA12, FSR12, FSB12, FHK12, F4H12, F4L12	FUD12, FUD12/800 ⁷⁾ FKR12UD-12V DC FLS12UD-12V DC	FSG12/1-10 V b) FKR12/1-10 V b) FLS12/1-10 V b)	FMS12, FTN12 FFR12, FMZ12, FZK12 b)	FMSR12
Contact material/contact gap	AgSn02/0.5 mm	Power MOSFET	AgSn02/0.5 mm	AgSnO2/0.5 mm	OptoMOS
Test voltage control connections/contact	_	_	_	2000 V	4000 V
Rated switching capacity each contact	4A/250 V AC	_	600 VA 5)	16 A / 250 V AC; FMZ12: 10 A/250 V AC	50 mA
Incandescent lamp and halogen lamp load 230 V $^{2)}$, I on \leq 70 A / 10 ms	1000 W	up to 500W; FUD12/800W: up to 800W 1) 3) 4)	_	2000 W	-
Fluorescent lamp load with KVG* in lead-lag circuit or non compensated	500 VA	_	_	1000 VA	_
Fluorescent lamp load with KVG* shunt-compensated or with EVG*	250 VA, I on ≤ 10 A / 10 ms	_	600 VA 5)	500 VA	_
Compact fluorescent lamps with EVG* and energy saving lamps	8x7W 5x20W	up to 100 W 6) 9)	_	15 x 7 W 10 x 20 W	_
Inductive laod cos $\phi = 0.6/230\text{V}$ AC inrush current $\leq 35\text{A}$	650 W 8)	_	_	650 W 8)	_
Dimmable 230V LED lamps	_	up to 100 W 6) 9)	_	_	-
Max. switching current DC1: 12V/24V DC	4 A	_	_	8A (not FNT12 and FZK12	50 mA
Service life at rated load, $\cos \phi = 1$ or incandescent lamps 500 W at 100/h	> 10 ⁵	_	> 10 ⁵	> 10 ⁵	_
Service life at rated load, $\cos\phi = 0.6$ at 100/h	> 4 x 10 ⁴	_	> 4 x 10 ⁴	$> 4 \times 10^4$	_
Max. operating cyles	10 ³ /h	_	10 ³ /h	10 ³ /h	-
Maximum conductor cross-section (3-fold terminal)	6 mm ² (4 mm ²)	6 mm ² (4 mm ²)	6 mm ² (4 mm ²)	6 mm ² (4 mm ²)	6 mm ² (4 mm ²)
Two conductors of same cross-section (3-fold terminal)	2.5 mm ² (1.5 mm ²)	2.5 mm ² (1.5 mm ²)	2.5 mm ² (1.5 mm ²)	2.5 mm ² (1.5 mm ²)	2.5 mm ² (1.5 mm ²
Screw head	slotted/cross- head, pozidriv	slotted/cross- head, pozidriv	slotted/cross- head, pozidriv	slotted/cross- head, pozidriv	slotted/cross- head, pozidriv
Type of enclosure/terminals	IP50/IP20	IP50/IP20	IP50/IP20	IP50/IP20	IP50/IP20
Electronics					
Time on	100%	100%	100%	100%	100%
Max./min. temperature at mounting location	+50°C/-20°C	+50°C/-20°C	+50°C/-20°C	+50°C/-20°C	+50°C/-20°C
Standby loss (active power)	0.1 W; F4L12: 0.2 W	0.3W	0.9 W	0.05-0.5 W	0.2 W
Local control current at 230V control input	_	_	_	5 mA	-
Max. parallel capacitance (approx. length) of local control lead at 230 V AC	-	-	-	FTN12: 0.3 µF (1000 m)	-

- b) Bistable relay as relay contact. After installation, wait for short automatic synchronisation before teaching-in the wireless pushbuttons.
- 1) At a load of more than 300W a ventilation clearance of 1/2 module to adjacent devices must be maintained.
- 2) Applies to lamps of max. 150 W.
- 3) Per dimmer or capacity enhancer it is only allowed to use max. 2 inductive (wound) transformers of the same type, furthermore no-load operation on the secondary part is not permitted. The dimmer might be destroyed. Therefore do not permit load breaking on the secondary part. Operation in parallel of inductive (wound) and capacative (electronic) transformers is not permitted!
- 4) When calculating the load a loss of 20% for inductive (wound) transformers and a loss of 5% for capacitive (electronic) transformers must be considered in addition to the lamp load.
- 5) Fluorescent lamp or low voltage halogen lamp with electronic ballast units.
- 6) In the settings and operation modes for dimmable energy saving lamps ESL and LED no wound (inductive) transformer must be dimmed.
- 7) Increase of capacity for dimmable energy saving lamps ESL and dimmable 230V LED lamps with capacity enhancer LUD12.
- 8) All actuators with 2 contacts: Inductive load $\cos \varphi = 0.6$ as sum of both contacts 1000 W max.
- 9) Maximal 10 lamps.

If the lines of the RS485 bus are longer than 2m, a terminal resistor of approx. 220 ohms must be connected to the last actuator under the terminal RSA/RSB.

* EVG = electronic ballast units; KVG = conventional ballast units

Eltako Wireless is based on the EnOcean wireless standard for 868MHz, frequency 868.3MHz, data rate 125kbps, modulation mode ASK, max. transmit power 7dBm (<10mW).

Technical Data Switching Actuators and Dimming Actuators for installation



Contacts	FUD61NP FUD61NPN	FUD70 FUD70S FKR70UD FLS70UD	FSR61, FMS61, FLC61, FSB61, FTN61, FMZ61, FHK61, FSR61LN, F2L61, FFR61, FZK61, FSR70, FSB70, FHK70, F2L70, FZK70	FSG70 FKR70/1-10 V FLS70/1-10 V
Contact material/contact gap	Power MOSFET	Power MOSFET	AgSnO ₂ /0.5 mm b)	AgSnO ₂ /0.5 mm b)
Spacing of control connections/contact	_	_	3 mm	_
Test voltage control connections/contact	-	-	2000 V	_
Rated switching capacity each contact	_	_	10 A / 250 V AC FSR70W: 16 A / 250 V AC	600 VA 4)
Incandescent lamp and halogen lamp load 1) 230V, I on $\leq 70\text{A}/10\text{ms}$	up to 300 W 2)	up to 400 W 2)	2000 W	_
Fluorescent lamp load with KVG* in lead-lag circuit or non compensated	_		1000 VA	_
Fluorescent lamp load with KVG* shunt-compensated or with EVG*	_	_	500 VA	600 VA 4)
Compact fluorescent lamps with EVG* and energy saving lamps	only FUD61NPN: up to 100 W 3)	up to 100 W 3)	15x7W, 10x20W	_
Inductive land cos $\phi = 0.6/230\text{V}$ AC inrush current $\leq 35\text{A}$	_	_	650 W 5)	_
Dimmable 230V LED lamps	only FUD61NPN: up to 100 W 3)	up to 100 W 3)	_	_
Max. switching current DC1: 12V/24V DC	_	_	8 A (not NP and 70)	_
Service life at rated load, $\cos \phi = 1$ or incandescent lamps 500 W at 100/h	_	_	> 10 ⁵	> 10 5
Service life at rated load, cos ϕ = 0.6 at 100/h	_	_	$> 4 \times 10^4$	> 4 x 10 ⁴
Max. operating cyles	_	_	10 ³ /h	10 ³ /h
Maximum conductor cross-section	4 mm ²	4 mm ²	4 mm ²	4 mm ²
Two conductors of same cross-section	1.5 mm ²	1.5 mm ²	1.5 mm ²	1.5 mm ²
Screw head	slotted/cross-head	slotted/cross-head	slotted/cross-head	slotted/cross-head
Type of enclosure/terminals	IP30/IP20	IP30/IP20	IP30/IP20	IP30/IP20
Electronics				
Time on	100%	100%	100%	100%
Max./min. temperature at mounting location	+50°C/-20°C	+50°C/-20°C	+50°C/-20°C	+50°C/-20°C
Standby loss (active power)	FUD61NP: 0.7 W; FUD61NPN: 0.5 W	0.6W	0.3W-0.9W	1.7 W
Local control current at 230 V control input, only on Series 61	1mA	_	3.5 mA; FSR61+FHK61/8-24 V UC, at 24 V DC: 0.2 mA	-
Max. parallel capacitance (approx. length) of local control lead at 230 V AC	0.06 μF (200 m)	-	0.01 µF (30 m)	-

b) Bistable relay as relay contact. After installation, wait for short automatic synchronisation before teaching-in the wireless pushbuttons.

Eltako Wireless is based on the EnOcean wireless standard for 868 MHz, frequency 868.3 MHz, data rate 125 kbps, modulation mode ASK, max. transmit power $7 \, \text{dBm} (< 10 \, \text{mW})$.

¹⁾ Applies to lamps of max. 150W.

²⁾ Also max. 2 induction transformers of the same type (L load) and electronic transformers (C load).

³⁾ In the settings ESL for dimmable energy saving lamps ESL or in the LED settings für dimmable 230V LED lamps no wound (inductive) transformers must be dimmed. Only for dimmable energy saving lamps ESL.

⁴⁾ Fluorescent lamps or LV halogen lamps with electronic ballast.

⁵⁾ All actuators with 2 contacts: Inductive load $\cos \varphi = 0.6$ as sum of both contacts 1000 W max.

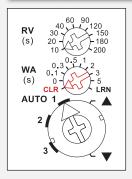
^{*} EVG = electronic ballast units; KVG = conventional ballast units

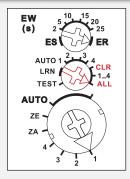
All sensors such as wireless pushbuttons, wireless hand-held transmitters, wireless transmitter modules, wireless window/door contacts, wireless timers, wireless motion/brightness sensors and hotel key card switches must be taught-in in the actuators (receivers with dimmers, switches and relays) so that they can detect and execute commands.

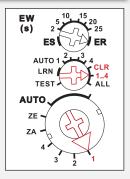
The teach-in memory is empty on delivery from the factory. If you are unsure whether the teach-in memory contains something or not, you must first clear the memory contents completely:

On DIN rail devices, set the middle rotary switch to CLR ALL (or to CLR 1..4 if you only want to clear one channel and also set the lower rotary switch to the required channel). For built-in devices, only set the upper rotary switch to CLR.

settings modular devices







settings built-in devices



The LED flashes at a high rate. Within the next 10 seconds, turn the upper rotary switch on the DIN rail devices or the lower rotary switch on the other actuators three times to the right stop (turn clockwise) and then turn back away from the stop. The LED stops flashing and goes out after 2 seconds. All taught-in sensors or sensors of a channel are cleared.

Clear individual taught-in sensors in the same way as in the teach-in procedure, except that you set the middle rotary switch on DIN rail devices and the upper rotary switch for all other actuators to CLR instead of LRN, and operate the sensor. The LED previously flashing at a high rate goes out.

Teach-in settings of lower rotary switch on the most common integrated devices in Series 61

type teaching-in function	FMS61	FSB61	FSR61	FTN61	FMZ61	FUD61NP	FUD61NPN
universal switch ON/OFF(/dim); or UP/HOLD/DOWN; or switch on/reset	EA1 + EA2 + エニ	2	middle	middle	(2)	2	2
universal switch as NC contact			120				
direction switch ON/OFF(/dim)						max	+ESL
direction switch UP/DOWN (START/STOP)		min			1h		
central OFF or DOWN	ZA	1	2	1	(1)	1	1
central ON or UP	ZE	3	∞	20		3	3
FTK as NC contact			2	20	0.5s		
FTK as NO contact			∞	1	(3)		
FBH as motion sensor				20			
FBH as brightness sensor				1 middle			
FAH as twilight sensor		min max	2 120				
FSU55D and FSU12D							-ESL
PC and light scene pushbutton		max				min	R, L, C

To carry out a teach-in, please refer to the operating instructions supplied with the device or visit our website at www.eltako.com.

If there are several operating instructions as a result of later development stages, please refer to the date of manufacture on the underside of the device, e.g. 50/08 = manufactured in Week 50 of the year 2008.



Important note!

When an actuator is ready for teach-in (the LED flashes at a low rate), the very next incoming signal is taught-in. Therefore, make absolutely sure that you do not activate any other sensors during the teach-in phase.

T-2

Chart – Wireless sensors that can be taught-in in wireless actuators



Sensors	Pushbuttons and hand-held transmitters	Trans- mitter modules	Card switch, pull switch and smoke alarm	Window/ door contact	Hoppe window handle	Motion sensors	Brightness sensors	Temperature controller/ sensors	Control from a PC using FVS
Actuators	FT2S, FT4F FT4, FFT55Q, FMT55, FHS4 FHS6, FHS8 FHS12, FMH2	FSM12 F8S12 FSM61 FTS12EM FSU55D	FKF FKC FZS FRW	FTK	FHF	FBH63 FABH63	FABH63 FAH60 FAH63 FBH63 FIH63AP	FTR55H FTR55D FTF55 FUT55D FAFT60	Software
	FMH4, FMH8	FSU12						FIFT63	
FFR12-12 V DC	X	Х							Х
FHK12-12 V DC	X	.,,		Х	X	X	X	Х	X
FKR12/1-10V	X	X				X	X		X
FKR12UD-12 V DC	X	X				X	X		X X ²⁾
FLS12/1-10 V	X	X							X ²)
FLS12UD-12 V DC	X	X	v						
FMS12-12 V DC	X	X	X	V	V				X
FMZ12-12 V DC				X	X	V			X
FSA12-12 V DC FSB12-12 V DC	X	X	X	X	X	X	X		X X 2)
FSG12/1-10 V	X			Λ	٨		Λ		
	X	X	X	Х	X	X	X		X
FSR12-12 V DC FSR12-4x-12 V DC	X	X	X	X	X	X	X		X
FTN12-12 V DC	X	X	^	X	^	X	^		X
FUD12/800 W	X	X		Λ		Α			X 2)
FUD12NPN-12 V DC	X	X							χ ²⁾
FZK12-12 V DC	Λ	^	Х	Х	Х	X			Λ '
F4H12-12 V DC			^	X	X	^		X 1)	
F4L12-12 V DC	Х	Х		X	X			X	X
								^	^
FADS60	Х	Х		Х	Х	Х			Х
FFR61-230 V	Х	Х							Х
FGM	Х	Х	Х	Х	Х	Х			Х
FHK61-230 V	Х			Х	Х	Х	Х	Х	Х
FHK61/8-24 V UC	Х			Х	Х	Х	Х	Х	Х
FHK70-230 V	Х			Х	X		X	Х	Х
FKR70/1-10 V	Х	Х				Х	Х		Х
FKR70UD-230 V	Х	Х				Х	Х		X
FLC61NP-230 V	Х	Х	Х	Х	Х	X	Х		X 2)
FLS70/1-10 V	X	X				X			X 2)
FLS70UD-230 V	X	X				Х			X ²⁾
FMS61NP-230 V	X	X			.,				X
FMZ61-230 V	X	X	Х	X	X				X 2)
FSB61NP-230 V	X	X		X	X		X		X ²⁾
FSB70-230 V	X	X		Х	Х		Х		
FSG70/1-10V	X	X	V	v	V	v	v		X
FSR61-230 V	X	X	X	X	X	X	X		X
FSR61/8-24 V UC	X	X	X	X	X	X	X		X
FSR61NP-230 V	X	X	X	X	X	X	X		X
FSR70-230 V	X	X	X	Х	Х	v	X		X
FSR70S-230 V	X	X	Х	v		X	Х		X
FTN61NP-230 V	X	X		X	v	X			X
FUA55LED	X	X		Х	Х	X	v		X
FUD61NP-230V	X	X				X	X		X X 2)
FUD61NPN-230 V	X	X				Х	Х		X ²)
FUD70-230 V	X	X							X ²)
FUD70S-230 V	Х	X		v	v				λ - ′
FUT55D			V	X	X	v			
FZK61NP-230 V			X	X	X	X			
FZK70-230 V F2L61-230 V	V	X	X	X	X	Х		X	X
F2L70-230 V	X							X	
12L/U-23UV	X	X		Х	X			X	X

Operating distances of the Eltako wireless

Operating distances between sensors and actuators

Compared with hard-wired systems, EnOcean wireless systems are highly flexible and simple to install.

The following instructions simplify installation. You will find detailed instructions on wireless network planning in the 12-page booklet "EnOcean Wireless Systems – Range planning Guide" that you can download from www.enocean.com.

1. Wireless signal range

Wireless signals are electromagnetic waves. The field strength at the receiver decreases the further the distance away from the transmitter. The wireless range is therefore limited. Obstacles standing in the radio field the also shorten range compared with line-of-sight links:

Obstacle	Reduced range
Wood, plaster, glass uncoated, with no metal	0 - 10 %
Brick, particle board	5 - 35 %
Concrete with iron reinforcement bars	10 - 90 %
Metal, aluminium cladding	see 2.

The geometric shape of a room determines the radio range since propagation is not in the form of a beam but requires a certain volume of space (the radio beam from the transmitter and receiver ellipsoidal at their points of focus). Narrow corridors with solid walls are bad for propagation.

External antennas typically have better radio characteristics than flush-mounted receivers installed in walls. The type of fitted for the antennas and the spacing from ceilings, floors and walls all play a role.

People and obstacles in a room may reduce range.

It is therefore essential to integrated some reserve when performing range planning to ensure the reliable functioning of the wireless system even in poor conditions.

A sturdy, reliable installation in a building is achieved by integrating sufficient range reserves. Recommendations from everyday practice:

Range	Conditions
> 30 m	Under excellent conditions: Large free room, optimum antenna design and good antenna position.
> 20 m (planning safety)	If there are furniture and persons in the room, through up to 5 dry plasterboard walls or 2 brick/aerated concrete walls: For transmitters and receivers with good antenna design and good antenna position.
> 10 m (planning safety)	If there are furniture and persons in the room, through up to 5 plasterboard drywalls or 2 brick/aerated concrete walls: For receivers fitted in wall or in ceiling. Or small receiver with internal antenna. Or together with switch/wire antenna on/near metal. Or a narrow corridor.
Dependent on reinforcement and antenna design	Vertical through 1-2 ceilings

2. Partitioning

So-called radio shadows form behind metal surfaces, e.g. behind metal partition walls and metal ceilings, behind metal foils of heat insulation and solid reinforcement in concrete walls. Single thin metal strips have very little influence, for example the profile sections in a plasterboard drywall.

It has been observed that radio communications also works with **metal room dividers.** This occurs by reflections: metal and concrete walls reflect radio waves and they travel to neighbouring corridors or rooms through openings, e.g. in a wooden door or a glass partition. The range may be strongly reduced depending on the location. An additional repeater at a suitable location can easily offer alternative radio paths.

Important conditions that reduce radio range:

- Metal partition walls or hollow walls filled with insulation wool backed by metal foil
- Suspended ceilings with panels made of metal or carbon fibre
- Steel furniture or glass with metal coating
- Fitting the pushbutton on a metal wall (typical range loss: 30%)
- Use of metal pushbutton frames (typical range loss: 30%)

Firewalls, staircases and building services areas should be regarded as partitions.

A partition can be avoided by repositioning the transmitter/receiver antenna out of the radio shadow or by using a repeater.

Operating distances of the Eltako wireless



Operating distances between sensors and actuators

3. Penetration angle

The angle at which the transmitted signal impinges on the wall plays a special role. Signals should penetrate masonry as vertically as possible. Wall niches must be avoided.

4. Antenna installation

The receive antenna or a **receiver with an integrated antenna** should not be installed on the same side of the wall as the transmitter. It is better to install the antenna on adjacent or opposite walls. The antennas should be spaced from the room corner at a distance of >10 cm as far as possible.

The ideal installation location for the receive antenna is a central position in the room.

A **"magnet foot antenna"** (e.g. Eltako FA200 or FA250) must adhere on a metallic surface that is as large as possible in order to create a sufficient opposite pole. For example, the simplest installation can be on a ventilation pipe.

5. Spacings between receiver and other interference sources

The spacing between the receiver and other transmitters (e.g. GSM/DECT/Wireless LAN) and high-frequency interference sources (computer, audio and video systems) should be >50cm.

Eltako transmitters, on the other hand, can be installed without any problem next to other transmitters and interference sources.

6. Use of repeaters

In case of problems with reception quality, it may be helpful to use a wireless repeater. The Eltako Repeater FRP61 (see page **Z**-0) requires no configuration, only a mains connection. If receives the wireless signal and passes it on. This almost doubles the range. Eltako repeaters are switchable to 2-level function and allow more than two repeaters to be cascaded.

7. Field strength measuring instrument

The field strength measuring instrument EPM400 (see page **Z**-4) helps to find the best position for transmitter and receiver. Moreover, it can be used to test link interferences in installed devices and even identify an interfering transmitter.

8. Installation in residential buildings

Here there is no real necessity to overcome large radio links. If necessary, a central wireless repeater can be installed to amplify the signal.

9. Installation in industrial buildings

To cover large premises, a wireless gateway is typically used as an automation bus (TCP/IP, EIB/KNX, LON, etc.). Planning with a range radius of 10-12 m offers sufficient security, even if there are the usual changes to the environmental conditions later.

Contents of Eltako Wireless Telegrams

Communication within Eltako Wireless Building

All Eltako wireless sensors and Eltako wireless actuators communicate within the Eltako wireless network by means of wireless telegrams that are formatted using the world-wide standard of EnOcean Alliance. These are the EEPs as described below; some of them are partly modified to a certain extent. The feedback from the bidirectional actuators to confirm the switch position correspond to those of the PTM200 wireless modules but without the telegram sent when the button is released.

Sensor telegrams

FABH63+FBH55+FBH63+FIBH63 (EEP: similar to 07-08-01)

(EEP: similar to 07-08-01, expanded brightness range, no Occupancy Button in DBO BitO)

ORG =0x07Data_byte3 =

Data_byte2 = brightness 0 - 2048 lux, linear n = 0x00 - 0xFF

Data_byte1 =

Data_byte0 = DBO_Bit3 = LRN Button

(0 = teach-in telegram, 1 = data telegram)

 $DB0_Bit1 = motion$ (0 = motion, 1 = no motion)

for data telegram: 0x0D (motion), 0x0F

(no motion)

for teach-in telegram: 0x85 Teach-in telegram BD3..DB0: 0x20, 0x08, 0x0D, 0x85

FAFT60+FIFT63AP (EEP: 07-04-02 plus Data_byte3)

ORG =

Data_byte3 = charge state of energy accumulator $(e.g \ 2.5V = 0x59 \dots 4V = 0x9B)$

Data_byte2 = rel. humidity 0 .. 100%, linear 0x00 - 0xFA,

i.e. (0..250 dez.)

Actual temperature -20°C .. +60°C, linear 0x00 Data_byte1 =

- 0xFA, i.e. (0..250 dez.) Data_byte0 = DBO Bit3 = LRN Button

(0 = teach-in telegram, 1 = data telegram)

for data telegram: 0x0F, for teach-in telegram: 0x87

Teach-in telegram BD3..DB0: 0x10, 0x10, 0x0D, 0x87

FAH60+FAH63+FIH63 (EEP: 07-06-01 plus Data_byte3)

ORG =

Data_byte3 = brightness 0 - 100 lux, linear n = 0x00 - 0xFF

(only valid if DB2 = 0x00)

Data_byte2 = brightness 300 - 30.000 lux, linear n = 0x00 - 0xFF

Data_byte1 =

Data_byte0 = DBO_Bit3 = LRN Button

(0 = teach-in telegram, 1 = data telegram)

for data telegram: 0x0F, for teach-in telegram: 0x87

Teach-in telegram BD3..DB0: 0x18, 0x08, 0x0D, 0x87

FASM60+FSM12+FSM61+FSU12D+FSU55D

ORG = 0x050x70/0x50 Data_byte3 =

FKC+FKF

ORG = 0x05 Data byte3 = 0x10/0x00

FRW

ORG -0x05Data_byte3 =

0x10 = alarm

0x00 = alarm-end

0x30 = battery voltage < 7.2 V

FSS12 (EEP: 07-12-01)

ORG = 0x07

Data_byte3 to Data_byte1 form a 24-bit binary coded number

0...16777215 Data_byte3 = Data Byte 3 (MSB) Data_byte2 = Data Byte 2 0...16777215 Data Byte 1 (LSB) 0...16777215 Data_byte1 =

DBO_Bit4 = tariff switchover Data_byte0 =

(0 = normal rate, 1 = off-peak rate)

 $DBO_Bit3 = LRN Button$

(0 = teach-in telegram, 1 = data telegram)DBO_Bit2 = switchover data content: 1 = momentary power in watts,

0 = meter status in 0.1 KW/h $DB0_Bit1 = 0$ (fix) DBO BitO = 1 (fix)

Possible values in data telegram:

DBO = 0x09 -> meter status normal rate in 0,1 KW/h DB0 = 0x19 -> meter status off-peak rate in 0,1KW/h DBO = 0x0C -> momentary power in W, normal

rate active

DBO = 0x1C -> momentary power in W, off-peak

rate active

Teach-in telegram BD3..DB0: 0x48, 0x08, 0x0D, 0x80 (is sent once at

every power-up)

FT4+FT4F+FT55 with rocker

0x05 ORG = Data_byte3 = 0x70/0x50

FT4+FT4F+FT55 with double rocker

ORG =

Data_byte3 = 0x70/0x50/0x30/0x10

FTF55 (EEP: 07-02-05)

ORG = 0x07 Data_byte3 =

Data_byte2 =

actual temperature 0 - 40°C, linear 0xFF - 0x00 Data_byte1 =

Data_byte0 = $DBO_Bit3 = LRN Button$

(0 = teach-in telegram, 1 = data telegram)

for data telegram: 0x0F, for teach-in telegram: 0x87

Teach-in telegram BD3..DB0: 0x08, 0x28, 0x0D, 0x87

FTK (EEP: 06-00-01)

Data_byte3 = contact closed -> 0x09

contact open -> 0x08

teach-in button pressed -> 0x00 Data_byte2 =

Data_byte1 = Data_byte0 =

Teach-in telegram BD3..DB0: 0x00, 0x00, 0x00, 0x00

Contents of Eltako Wireless Telegrams



Sensor telegrams

FTR55D+FTR55H (EEP: 07-10-03 plus Data_byte3)

ORG =

night reduction 0-5°K in 1° steps Data_byte3 =

 $0x00 = 0^{\circ}K$, $0x06 = 1^{\circ}K$,

 $0x0C = 2^{\circ}K$, $0x13 = 3^{\circ}K$, $0x19 = 4^{\circ}K$, $0x1F = 5^{\circ}K$ reference temperature 0 - 40°C, linear 0x00 - 0xFF

Data_byte2 = adjustable range: $8^{\circ}C - 40^{\circ}C$

Data_byte1 = actual temperature 0 – 40°C, linear 0xFF - 0x00

Data_byte0 = DBO_Bit3 = LRN Button

(0 = teach-in telegram, 1 = data telegram) for data telegram: 0x0F, for teach-in telegram: 0x87

Teach-in telegram BD3..DB0: 0x40, 0x30, 0x0D, 0x87

FTS12EM (only telegrams for the Eltako-RS485-Bus)

The pushbutton input module generates FT4 telegrams within the RS485 Bus. The basis ID's 1, 11, 21, 31, 41, 51, 61, 71, 81 and 91 are used depending on the preset ID range.

ORG =0x05

Data_byte3 = control of $+A1 \rightarrow 0x70$ (basis-ID+0)

control of $+A3 \rightarrow 0x50$ (basis-ID+1) control of +A4 -> 0x70 (basis-ID+2)

New from week 30/2011 -> 0x30 control of +A5 -> 0x50 (basis-ID+3)

New from week 30/2011 -> 0x10

control of +A6 -> 0x70 (basis-ID+4) control of +E1 -> 0x70 (basis-ID+5)

control of $+E3 \rightarrow 0x50$ (basis-ID+6) control of $+E4 \rightarrow 0x70$ (basis-ID+7)

New from week 30/2011 -> 0x30 Ansteuerung von +E5 -> 0x50 (basis-ID+8) New from week 30/2011 -> 0x10

Ansteuerung von +E6 -> 0x50 (basis-ID+9)

If the control of a control input will be finished, a telegram with the respective ID and Data_byte3 = 0x00 will be created.

Data_byte2 = not used (0x00) Data_byte1 = not used (0x00) Data_byte0 = not used (0x00)

FWS61

The FWS61 has two telegrams to one data set, which are sent successively. In the telegrams last Byte (UU oder YY) it can be identified, which telegram part is involved

Telegram part 1: 0xRRSSTTUU

- $\ensuremath{\mathsf{RR}}$ is the twilight sensor which supplies data from 0-1000 Lux (0-255)

e.g.: 0x7A = 122; 122*1000/255 = 478 lux

- SS is the temperature which lies between -40°C (corresponding 0) and +80°C (255) e.g.: 0x2C = 44; 44*120/255 = 20,7 à lower 40 after that 40-20.7 = -19.3°C

e.g.: 0x6F = 111; 111*120/255 = 52,2 à not lower then 40 after that $52.2-40 = 12,2^{\circ}C$

- TT is the wind speed which lies between 0m/s (corresponding 0) and 70m/s (255) e.g.: 0x55 = 85; 85*70/255 = 23 m/s

- UU is either 0x1A with "rain" or 0x18 with "no rain".

Telegram part 2: 0xVVWWXXYY

- VV is the solar value of the west sensor 0(0)-150kLux(255)

e.g.: 0x44 = 68; 68*150/255 = 40 klux

- WW is the solar value of the south sensor 0 (0)-150kLux (255)

- XX is the value of the east sensor 0 (0)-150kLux (255)

- YY is always 0x28

Teach-in telegram BD3..DB0: 0x4C080D80

FWZ12 (EEP: 07-12-01)

ORG = 0x07

Data_byte3 to Data_byte1 form a 24-bit binary coded number

Data_byte3 = Data Byte 3 (MSB) Data_byte2 = Data Byte 2 0...16777215 Data Byte 1 (LSB) 0...16777215Data_byte1 =

Data_byte0 = $DBO_Bit4 = 0$ (fixed)

DBO_Bit3 = LRN Button

(0 = teach-in telegram, 1 = data telegram) DBO_Bit2 = switchover data content: 1 = momentary power in watts, 0 = meter status in 0.1 KW/h

DBO Bit1 = 0 (fixed) $DBO_BitO = 1$ (fixed)

Possible values in data telegram:

DB0 = 0x09 -> meter status normal rate in 0.1 KW/h DB0 = 0x19 -> meter status off-peak rate in 0.1 KW/h $DBO = 0x0C \rightarrow momentary power in W,$

normal rate active

DBO = 0x1C -> momentary power in W,

off-peak rate active

Teach-in telegram BD3..DB0: 0x48, 0x08, 0x0D, 0x80 (is sent once on every power-up)

FWZ61 (EEP: 07-12-01)

Data_byte3 to Data_byte1 form a 24-bit binary coded number

Data_byte3 = Data Byte 3 (MSB) 0...16777215 0...16777215 Data_byte2 = Data Byte 2 Data_byte1 = Data Byte 1 (LSB) 0...16777215

Data_byte0 = $DBO_Bit4 = 0$ (fixed) DBO_Bit3 = LRN Button

(0 = teach-in telegram, 1 = data telegram)DBO_Bit2 = switchover data content:

1 = momentary power in watts, 0 = meter status in 0.1 KW/h

 $DB0_Bit1 = 0$ (fixed) $DBO_BitO = 1$ (fixed)

Possible values in data telegram:

DB0 = 0x09 -> meter status normal rate in 0.1 KW/h DBO = 0x19 -> meter status off-peak rate in 0.1 KW/h

 $DBO = 0xOC \rightarrow momentary power in W,$

normal rate active

DB0 = 0x1C -> momentary power in W,

off-peak rate active

Teach-in telegram BD3..DB0: 0x48, 0x08, 0x0D, 0x80 (is sent once on every power-up)

FZS

ORG = 0x05 0x10/0x00 Data_byte3 =

Activation telegrams from the FVS software

FLC61-230 V

Direct switching command, FUNC=38, Command 1, (like EEP 07-38-08).

There is the possibility to **block*** the switching state with absolut priority so that it cannot be changed by other taught-in pushbuttons.

ORG = 0x07 Data_byte3 = 0x01 Data_byte2 = no used Data_byte1 = no used

Data_byte0 = DB0_Bit3 = LRN Button

(0 = teach-in telegram, 1 = data telegram)
DBO_Bit2 = 1: block* switching state,
0: do not block switching state

DBO_BitO = 1: switching output ON, O: switching output OFF

Data telegrams have to look like date:

0x01, 0x00, 0x00, **0x09** (switching output ON, not blocked) 0x01, 0x00, 0x00, **0x08** (switching output OFF, not blocked) 0x01, 0x00, 0x00, **0x0D** (switching output ON, blocked) 0x01, 0x00, 0x00, **0x0C** (switching output OFF, blocked)

FSB12

Direct drive command with specification of runtime in s. FUNC=3F, Typ=7F (universal)

ORG = 0x0° Data byte3 = -

Data_byte2 = runtime in seconds 1-255 dec,

the runtime setting on the device is ignored.

Data_byte1 = command: 0x00 = Stop 0x01 = Up

0x01 = 0p0x02 = Down

Data_byte0 = DB0_Bit3 = LRN Button

(0 = teach-in telegram, 1 = data telegram)

Teach-in telegram BD3..DB0 must look like this: 0xFF, 0xF8, 0x0D, 0x80 It is possible to interrupt at any time by pressing taught-in buttons!

FSB61

Direct drive command with specification of runtime in s. FUNC=3F, Typ=7F (universal)

ORG = 0x07

Data_byte3 = -

Data_byte2 = runtime in seconds 1-255 dec,

the runtime setting on the device is ignored.

Data_byte1 = command:

0x00 = Stop 0x01 = Up0x02 = Down

Data_byte0 = DB0_Bit3 = LRN Button

(0 = teach-in telegram, 1 = data telegram)

Teach-in telegram BD3..DB0 must look like this: 0xFF, 0xF8, 0x0D, 0x80 It is possible to interrupt at any time by pressing taught-in buttons!

FSR12-4x-12 V DC

Direct switching command, FUNC=38, Command 1, (like EEP 07-38-08). Separately for each channel.

There is the possibility to **block*** the switching state with absolut priority so that it cannot be changed by other taught-in pushbuttons.

 ORG =
 0x07

 Data_byte3 =
 0x01

 Data_byte2 =
 no used

 Data_byte1 =
 no used

Data_byte0 = DB0_Bit3 = LRN Button

(0 = teach-in telegram, 1 = data telegram)
DBO_Bit2 = 1: **block* switching state**,
0: do not block switching state

DBO_BitO = 1: switching output ON, O: switching output OFF

Data telegrams have to look like date:

0x01, 0x00, 0x00, **0x09** (switching output ON, not blocked) 0x01, 0x00, 0x00, **0x08** (switching output OFF, not blocked) 0x01, 0x00, 0x00, **0x0D** (switching output ON, blocked) 0x01, 0x00, 0x00, **0x0D** (switching output OFF, blocked)

FUD12NPN, FUD61NP, FUD61NPN

Direct transfer of dimming value from 0 to 100%, similar to FUNC=38, Command 2

ORG = 0x07 $Data_byte3 = 0x02$

Data_byte2 = dimming value in % from 0 to 100 dec.

Data_byte1 = dimming speed

0x00 =the dimming speed set on the dimmer is

used.

OxO1 = very fast dimming speed to ... OxFF = very slow dimming speed

Data_byte0 = DBO_Bit3 = LRN Button

(0 = teach-in telegram, 1 = data telegram)

DBO_BitO = 1: Dimmer ON, 0: Dimmer OFF.

Teach-in telegram BD3..DB0 must look like this: 0x02, 0x00, 0x00, 0x00

Data telegrams BD3..DB0 must look like this, for example:

0x02, 0x32, 0x00, 0x09 (dimmer on at 50% and internal dimming speed) 0x02, 0x64, 0x01, 0x09 (dimmer on at 100% and fastest dimming speed) 0x02, 0x14, 0xFF, 0x09 (dimmer on at 20% and slowest dimming speed)

0x02, 0x.., 0x.., 0x08 (dimmer off)

Contents of Eltako Wireless Telegrams



Confirmation telegrams of bidirectional actuators

FADS60-230 V

Every time the internal switching relay changes state, a PTM200 telegram containing the unique ID of the integrated TCM300 is sent after approx. 300-400 ms. With central commands (ZE/ZA), the relay state is also sent if the state already matches the required state.

ORG = 0x05

Data_byte3 = 0x70 = relay ON, 0x50 = relay OFF

Remark: ON 0x00 (would be equivalent to button released) is never sent!

FFR61-230 V. FZK61NP-230 V

Every time the state of the internal switching relay 1 changes, the internal switching relay 1 sends a PTM200 telegram containing the unique ID of the integrated TCM300 after approx. 300 ms. Relay 2 sends the same telegram after approx. 1000 ms.

ORG = 0x05

Data_byte3 = 0x70 = channel 1 ON, 0x50 = channel 1 OFF

Ox30 = channel 2 ON, Ox10 = channel 2 OFF Remark: ON 0x00 (would be equivalent to button released) is never sent!

FHK61-230 V, FHK61/8-24 V

Every time the internal switching relay changes state, a PTM200 telegram containing the unique ID of the integrated TCM300 is sent after approx. 300 ms.

ORG = 0x05

Data_byte3 = 0x70 = relay ON, 0x50 = relay OFF

Remark: ON 0x00 (would be equivalent to button released) is never sent.

FMS61NP-230V

Every time the internal switching relay 1 changes state, a PTM200 telegram containing the unique ID of the integrated TCM300 is sent after approx. 300 ms. Relay 2 sends this message after approx. 1000 ms. With central commands (ZE/ZA), the relay state is also sent if the state already corresponds to the desired state.

ORG = 0x05

Data_byte3 = 0x70 = channel 1 ON, 0x50 = channel 1 OFF

0x30 = channel 2 ON, 0x10 = channel 2 OFF

Remark: ON 0x00 (would be equivalent to button released) is never sent.

FMZ61-230 V

Every time the the internal switching relay changes state, a PTM200 telegram containing the unique ID of the integrated TCM300 is sent after approx. 300-400 ms.

With central commands (ZE/ZA), the relay state is also sent if the state already corresponds to the desired state.

ORG = 0x05

Data_byte3 = 0x70 = relay ON, 0x50 = relay OFF

Remark: ON 0x00 (would be equivalent to button released) is never sent.

FSB61NP-230V

When the top or bottom end position is reached on expiry of the RV time set on the device, a PTM telegram containing the unique ID of the integrated TCM300 after approx. 300-400 ms.

ORG = 0x05

Data_byte3 = 0x70 = top end position,

0x50 = bottom end position

0x00 = motor running, or roller shutter stopped at some indefinite position since it was stopped

manually

Remark: The RV time must be set on the device so that the end position is always reached. If the roller shutter is already at an end position, the relay is switched on receipt of a drive command anyway (0x00 is sent) and it is switched off on expiry of the RV. (0x70 or 0x50 is sent)

FSR61NP-230V, FSR61-230V, FSR61/8-24V, FSR61LN-230V, FSR61VA-10A, FSR70-230V, FSR70W-16A, FTN61NP-230V, FLC61NP-230V

Every time the the internal switching relay state changes, a PTM200 telegram containing the unique ID of the integrated TCM300 is sent after approx. 300-400 ms. With central commands (ZE/ZA) the relay state is also sent if the state already corresponds to the required state.

ORG = 0x05

Data_byte3 = 0x70 = relay ON, 0x50 = relay OFF

Remark: ON 0x00 (would be equivalent to button released) is never sent.

FUD61NP-230 V, FUD61NPN-230 V

Every time the dimmer is switched on or off, a PTM200 telegram containing the unique ID of the integrated TCM300 is sent after approx. 300-400 ms.

ORG = Ox05

Data_byte3 = 0x70 = dimmer ON, 0x50 = dimmer OFF

In addition, approx. 1 second after reaching the required dimming value, a 4BS telegram containing the unique ID of the integrated TCM300 is also sent.

ORG = 0x07 $Data_byte3 = 0x02$

Data_byte2 = dimming value in % of 0-100 dec .

Data_byte1 = 0x00

Data_byte0 = 0x08 = dimmer OFF, 0x09 = dimmer ON.

Caution: No teach-in telegram containing ORG=7 can be generated. Caution: Two telegram kinds (ORG=5, ORG=7) containing the same ID

are sent!

To teach-in reply confirmation telegrams of bidirectional actuators into other actuators or into the FVS software the local control input has to be used to change the switching position and to simultaneously send the confirmation telegrams.

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Key to abbreviations

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BRF	attachment frame	1
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DSS	german fused safety socket	1
EPM	EnOcean level meter	Z
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FIH	indoor brightness sensor	2
FIW	wireless infrared converter	1
FKF	wireless hotel key card switch	1
FKR	wireless constant light controller	4, 5
FKS	wireless small actuator	6
FLC	light controller	5
FLS	wireless light scene controllers	4, 5
FMH	wireless mini hand-held transmitter	1
FMS	wireless multifunction impulse switch	4, 5
FMT	mini pushbuttons	1
FMZ	wireless multifunction time relay	4, 5
FPP	wireless Powernet phase coupler	3

Туре	Meaning	Chapter		
FPR	wireless Powernet repeater	3		
FPV	wireless Powernet connector	3		
FRP	wireless repeater	Z		
FRW	smoke alarm	2		
FSA	wireless switching actuator	4		
FSB	wireless switching actuator for shading elements	4, 5		
FSG	wireless controller	4, 5		
FSM	wireless transmitter module	2		
FSNT	wireless power supply unit	Z		
FSR	wireless impulse switch with integr. relay function	4, 5, 6		
FSS	wireless energy meter transmitter module	2,7		
FSU	wireless timer	3		
FT4, FT4F	wireless pushbutton with up to 4 signals	1		
FT4G, FT4GF	wireless pushbutton with up to 4 signals	1		
FTB	wireless pushbutton LED lighting	1		
FTF	wireless temperature sensor	2		
FTK	wireless window/door contact	2		
FTN	wireless staircase time switch and off-delay timer	4, 5		
FTR	wireless temperature controller	2		
FTS12	wireless pushbutton input module	3		
FUA	wireless universal display	6		
FUD	wireless universal dimmer switch	4, 5, 6		
FUT	wireless clock thermometer	2		
FVS	wireless visualisation and control software	7+V		
FWS	weather data transmitter module	2		
FWZ	wireless single-phase energy meter	7		
FZK	wireless time relay for card switch	4, 5		
HP	mounting plate	1		
KT	short-stroke pushbutton	Z		
LUD	capacity enhancer	4		
R, R1F	single frames	1		
R2, R2F	double frames	1		
R3, R3F	triple frames	1		
SDO+DSS	socket outlet	1		
SZR, SZF	socket outlet intermediate frame	1		
UFB+E	universal remote control	1		
W, WF	rocker	1		
ZR	intermediate frame	1		

Terms of Delivery

Terms of delivery
Deliveries will be made in conformity with 'General Conditions for the supply of products and services of the Electrical and Electronics Industry', June 2011. All deliveries are subject to an expanded retention of title and are sold according to our price list at the given time.

Eltako – The Wireless Building Sensor-actuator allocation <u>list</u>



Building: Page:																_			
aug	ht-in t	oy:														Page	:		_
Sensors Please assign a consecutive number and enter it. FT FHS FMH FIW FKF FHF FSM F8S FSS FTK FBH FAH FAFT FUT FTR FTF FTS12 FSU															Actuators Enter types and con- secutive numbers				
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